

**CLOSED-MINDEDNESS:  
THE EFFECT OF ACHIEVEMENT**

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THE EFFECT ON ACHIEVEMENT

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A Research Paper  
Presented to  
the Graduate Council of  
Austin Peay State University

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

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by  
Joan Wilkinson Harris

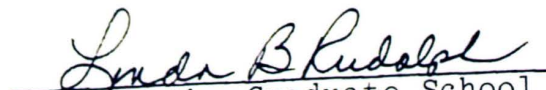
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To the Graduate Council:

I am submitting herewith a Research Paper written by Joan Wilkinson Harris entitled "Closed-mindedness: The Effect on Achievement." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

  
Major Professor

Accepted for the  
Graduate Council:

  
Dean of the Graduate School



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There is nothing either  
good or bad, but thinking  
makes it so.

--William Shakespeare

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## CHAPTER 1

### Introduction

In the development of the achievement scales of the California Psychological Inventory (CPI), Harrison Gough (1953b) sought to measure achievement potential rather than intelligence. Three of the eighteen scales were initially developed for the purpose of assessing intellect and achievement. One scale in particular later revealed its ability to predict achievement where characteristics of independence of thought, creativity and self-actualization were also present. This scale then became known as achievement via independence (Ai). In developing the Ai scale, Gough found there to be a low correlation with IQ, suggesting that there are other personality traits which will enhance achievement. Megargee (1972) notes that many of the items from the Ai scale suggest "a rejection of simple dogmatic or authoritarian attitudes" (p. 77). It is the relationship of dogmatism to achievement that was investigated in the present research.

Rokeach (1960) originally suggested a relationship between cognitive abilities and dogmatism. Though his work came on the heels of widespread work on anti-semitism and during a period of racial prejudice, Rokeach sought to define and measure the structure of the personality or the



belief system rather than the content of the beliefs, looking not at what one believes but how one believes. Rokeach then went on to separate the belief system into practical beliefs and cognitive components of the belief system, seeking to find a relationship between belief and thought. In establishing a tool with which to measure the structure of the belief system, Rokeach also sought to predict intellectual capabilities. Rokeach designed his dogmatism scale to measure differences in the openness and closedness of the individual's belief system, thereby defining the highly dogmatic individual as one who readily rejects ideas, people and authority.

Close and Bergmann (1979) found a significant inverse relationship between educational attainment and dogmatism. Their research further suggests the effects of the dogmatic personality on achievement. There has been substantial research to support the hypothesis that high dogmatics possess traits which are counterproductive to high achievement. Erlich and Lee (1969) investigated the effects of dogmatism on belief acquisition and concluded that high dogmatics are less able to learn new beliefs because of a tendency to accept what is familiar, even where inconsistencies are indicated.

In their study of the influence of the dogmatic personality upon information processing, Brightman and Urban (1974) compared the information processing behaviors

of high and low dogmatics based on Rokeach's Dogmatism Scale. The high dogmatics indicated a tendency to develop simple strategies for processing information and a need to reduce uncertainty. This research also suggests that dogmatism would then be counterproductive to high achievement as we can assume that complexity in information processing ability would facilitate achievement. This suggestion that dogmatic persons are cognitively less complex than non-dogmatics was, however, not supported by other studies (Burnett, 1973 and Nidorf and Argabrite, 1968).

Plant, Telford and Thomas (1965) used the Allport, Vernon and Lindzey Study of Values to compare high and low dogmatics to 5 scales on the CPI. The low dogmatics were characterized as being more likely to succeed academically. This conclusion was based on their description of low dogmatics as being outgoing, enterprising, calm, mature, forceful, efficient, clear thinking, and responsible.

Holland personality types and academic achievement were assessed by Schneider and Overton (1983) using grade point average and Scholastic Achievement Test scores. The investigative and artistic personality types were those which most consistently related to high scores and high achievement in this research. The investigative personality type and the artistic type are consistent with the low dogmatic personality type in that the investigative type was described by Holland as having unconventional values

and attitudes and the artistic type as having a need for individualistic expression and one who avoids problems that are highly structured (Holland, 1966). Although their results were not highly significant, this study indicates a need to further explore achievement through personality structure.

Whereas these studies describe personality characteristics which contribute to academic success, there has not been any evidence to link dogmatism with achievement through a structured assessment of achievement. By definition the low dogmatic personality is characterized by open-mindedness. Such a person should score high on the Ai scale of the CPI thus indicating an individual possessing personality traits which would facilitate high achievement. The present research examines this hypothesis by comparing dogmatism and achievement. Inasmuch as high scores on the Ai scale of the CPI should be associated with low scores on the Dogmatism Scale, a significant negative correlation was hypothesized.



## CHAPTER 2

### Method

#### The Sample

Subjects for the present research were obtained from undergraduate psychology classes at Austin Peay State University, Clarksville, Tennessee. The 66 subjects included 49 females and 17 males. All subjects volunteered to participate in this research and provided written authorization. The research was conducted in March of 1985.

#### Description of the Instruments

The California Psychological Inventory (CPI) is a self-administering paper and pencil test consisting of 480 true/false items intended for use with non-psychiatrically disturbed subjects. Since its conception in 1948, this instrument continues to be in widespread use both in the clinical setting and in research, and is considered by Megargee (1972) to have "achieved the status of a major personality assessment instrument" (p. 5). By 1973 the literature contained more than 600 CPI studies.

The CPI was designed for group administration but can be administered on an individual basis and without supervision. Though the content is interpreted to be more applicable to a student or young adult population, it has

been administered to subjects ranging from 12 to 70 years of age.

In developing the CPI, Harrison Gough (1948) abandoned the notion of constructing a theoretically based inventory and instead turned to the use of "folk concepts" for the purpose of describing behavior through characteristics commonly known and easily understood. The inventory includes 18 scales which are divided into four groups having related implications. The scales are grouped for convenience and for interpretational use. A description of the four categories follows.

Class I scales are grouped to describe and measure poise, ascendancy, self-assurance, and interpersonal adequacy. They are dominance (Do), capacity for status (Cs), sociability (Sy), social presence (Sp), self-acceptance (Sa), and sense of well-being (Wb). Class II scales measure socialization, responsibility, intrapersonal values and character, and are responsibility (Re), socialization (So), self-control (Sc), tolerance (To), good impression (Gi), and communality (Cm). Class III scales measure achievement potential and intellectual efficiency with achievement via conformance (Ac), achievement via independence (Ai), and intellectual efficiency (Ie). Measures of intellectual and interest modes comprise the Class IV scales. These are psychological-mindedness (Py), flexibility (Fx), and femininity (Fe). The present



research addressed only the third category, using the Ai scale. This scale is not simply an assessment of achievement, but of achievement stressing independent thought.

Form E of Rokeach's Dogmatism Scale (1960) is a 40 item inventory of statements seeking the respondents' personal opinion in terms of agreement or disagreement. The statements pertain to important social and personal questions which have wide applicability to society. Agreement with a statement indicates close-mindedness and disagreement indicates open-mindedness. The scoring ranges from +3 (I agree very much) to -3 (I disagree very much).

In constructing the dogmatism scale, Rokeach first defined open-mindedness and closed-mindedness and then designed statements which reflected characteristics of open and closed systems. Examples of these characteristics include isolation between the belief and disbelief system, possession of "primitive" beliefs, a tendency to focus on the past and the future rather than on the present, and feelings of paranoia, self-righteousness and intolerance. This scale can be found in the Appendix.

### Procedure

The CPI and the Dogmatism Scale were administered to two groups of subjects. Some subjects completed both instruments in one testing session and some subjects required two sessions. The total time required per subject

for testing ranged from 75 minutes to 90 minutes. There was no time limit on either instrument. Most of the testing was done through group administration though some subjects were given individual sessions due to scheduling difficulties. Although all subjects completed the entire CPI, only the achievement via independence (Ai) scale was scored and used in the present research. The Ai scale was hand-scored as directed by the manual using scoring templates to obtain raw scores. The Dogmatism Scale was hand-scored by summing the responses. A constant of 100 was added to the raw score to eliminate negative numbers.

## CHAPTER 3

### Results

Scores on the Ai scale of the CPI and scores on the Dogmatism Scale were correlated using the Pearson product moment correlation technique. Coefficients were obtained for the total group, for females, and for males. The total correlation was  $-.487$ , which was significant beyond the  $.001$  level of probability. For the female group, the coefficient was  $-.477$  and was significant at the  $.001$  level. The male group achieved significance at the  $.042$  level with a coefficient of  $-.494$ .

Noting that high scores on the Ai scale represent open-mindedness, and low scores on the Dogmatism Scale show the same, an inverse relationship was expected between dogmatism and achievement via independence.

Table 1 shows means and standard deviations for the three groups and Table 2 shows correlations for the three groups.

## CHAPTER 4

### Discussion

Through extensive validation studies and the test of time, there is little doubt as to the effectiveness of the CPI in research and in the clinical setting. In the validation studies of the CPI, one of the significant findings concerning the Ai scale was that it correlated less with IQ than grade point averages among student groups, suggesting that other factors affect achievement. Megargee (1972) suggests descriptive characteristics of the high scorer on the achievement via independence scale. In addition to the rejection of authoritarian attitudes, other characteristics suggested by Megargee which contribute significantly to achievement are high tolerance for ambiguity, thinking for oneself (or the rejection of conventional answers), holding unpopular or controversial opinions, enjoyment of intellectual activities, general positive adjustment, thinking well of others, and well developed moral values. The present research reveals that there is a relationship between one of these traits, namely dogmatism, to achievement via independence of thought. Further, it suggests that traits of open-mindedness are consistent with high achievement. Further research could examine how these other traits relate to achievement, thus perhaps providing



some evidence that the structure of the personality is a better predictor of academic success than grades or test scores.

Validation studies for the Ai scale also yielded information that the Ai scale predicted achievement in settings where independence of thought, creativity and self-actualization were reinforced (Megargee, 1972). There has been extensive research which has examined the relationship between creativity and dogmatism that has successfully linked open-mindedness or lack of dogmatism with creative expression. Rokeach (1960) described the closed-minded person as one who seeks approval from the ingroup, and who is rigid and conforming. In contrast, Barron (1957) described the creative person as original, flexible, and open-minded. All of this is very much in keeping with Megargee's description of the high scorer on the Ai scale of the CPI.

Early research on these concepts focused on authoritarian attitudes. In much of the research, dogmatism and authoritarianism refer to a similar type in terms of personality structure. Eisenman and Cherry (1968) found an inverse relationship between authoritarian attitudes and creative attitudes. This research was conducted using the California Facist Scale which was a forerunner of Rokeach's Dogmatism Scale. Later Grossman and Eisenman (1971) also suggested an inverse relationship between authoritarianism



and creativity, and successfully manipulated authoritarianism to change creativity scores on the Personal Opinion Survey. They concluded that both concepts, authoritarianism and creativity, are part of the closed-mindedness open-mindedness dimension. In a comparison between open-mindedness and creativity, Rouff (1975) also obtained a significant inverse relationship ( $-.25, p < .01$ ).

Faschingbauer and Eglevsky (1977) proposed to further strengthen the hypothesis that dogmatism was negatively related to creativity. They compared dogmatism scores from Rokeach's scale to personality orientations which relate to intellectual performance. These types were originally postulated by Welsh (1975) and were referred to as intellectence and origence. Whereas there were no significant findings concerning origence, the high score on intellectence shows an emphasis on the abstract, figurative and symbolic. These traits are also descriptive of the high scorer on the Ai scale of the CPI. Their research serves to link creativity with achievement in that a significant inverse relationship was obtained between dogmatism and intellectence ( $-.61, p < .001$ ). The findings of Faschingbauer and Eglevsky were replicated by Faschingbauer, Moore and Stone (1978) who found a coefficient of  $-.59$  ( $p < .001$ ) between dogmatism and intellectence. They also concluded that the failure to develop abstract thinking ability develops a vulnerability to dogmatic

attitudes. Both of these studies support the findings of the present research.

Though the Ai scale is specifically not a measure of intelligence, the validation studies also consistently showed significant correlations between the Ai scale and intelligence (Megargee, 1972). There has been considerable support for the contention that dogmatism correlated negatively with IQ. (Ernhardt, Jordan, & Spaner, 1971; Kaysen, 1972; Long, 1970).

The present findings and previous research on closely related concepts yield additional evidence that closed-mindedness or high dogmatism has a negative effect on achievement. Though dogmatism has been a predominant topic for empirical studies since introduced by Rokeach, the subject has been somewhat laid to rest in recent years. The suggestion that academic achievement is inhibited by a dogmatic personality has a major impact on scholastic and career counseling and could be further explored. Additional studies on manipulating or changing dogmatic attitudes would be relevant in the clinical setting as well as the academic setting.

## REFERENCES

- Barron, F. (1957). Originality in relation to personality and intellect. Journal of Personality, 25, 730-742.
- Brightman, H., & Urban, T. (1974). The influence of the dogmatic personality upon information processing: A comparison with a Bayesian information processor. Organizational Behavior and Human Performance, 11, 266-276.
- Burnett, D. (1973). Dogmatism, cognitive complexity, and trait anxiety: A study of interrelationships. Unpublished doctoral dissertation, United States International University, (Dissertation Abstract International, 33, Order No. 73-22,656).
- Close, M. J., & Bergmann, T. J. (1979). Dogmatism and attained educational level: A field study. Psychological Reports, 44, 671-673.
- Ehrlich, H. J., & Lee, D. (1969). Dogmatism, learning, & resistance to change: A review and a new paradigm. Psychological Bulletin, 71, 249-260.
- Eisenman, R., & Cherry, H. O. (1968, April). Creativity and authoritarianism. Paper presented at the meeting of the Southeastern Psychological Association, Roanoke, VA.
- Ernhart, C. B., Jordan, T. E., & Spaner, S. D. (1971).

- Maternal Quick Test (QT) scores in child development research. Psychological Reports, 28, 669-670.
- Faschingbauer, T., & Eglevsky, D. (1977). Relation of dogmatism to creativity: Origence and intellectence. Psychological Reports, 40, 391-394.
- Faschingbauer, T., Moore, C., & Stone, A. (1978). Cognitive style, dogmatism, & creativity: Some implications regarding cognitive development. Psychological Reports, 42, 795-804.
- Gough, H. G. (1948a). A new dimension of status: I. Development of a personality scale. American Sociological Review, 13, 401-409.
- Gough, H. G. (1953b). A non-intellectual intelligence test. Journal of Consulting Psychology, 42(4), 242-246.
- Gough, H. G. (1975). Manual for the California Psychological Inventory. (Rev. ed.). Palo Alto, California: Consulting Psychologists Press.
- Grossman, J., & Eisenman, R. (1971). Experimental manipulation of authoritarianism and its effect on creativity. Journal of Consulting & Clinical Psychology, 36, 238-244.
- Holland, J. (1966). The Psychology of Vocational Choice. Waltham, Massachusetts: Blaisdell Publishing Co.
- Kaysen, B. D. (1972). Authoritarianism, self-esteem, emotionality, and intelligence. Perceptual and Motor Skills, 34, 367-370.



- Long, H. B. (1970). Relationships of selected personal and social variables in conforming judgments. Journal of Social Psychology, 81, 177-182.
- Megargee, E. I. (1972). The California Psychological Inventory Handbook. San Francisco: Jossey-Ball, Inc.
- Nidorf, L. & Argabrite, A. (1968). Dogmatism, sex of the subject, and cognitive complexity. Journal of Projective Techniques, 32, 585-588.
- Plant, W. T., Telford, C. W., & Thomas, J. A. (1965). Some personality differences between dogmatic and non-dogmatic groups. Journal of Social Psychology, 67, 67-75.
- Rokeach, M. (1960). The open and closed mind. New York: Basic Books.
- Rouff, L. L. (1975). Openness, creativity & complexity. Psychological Reports, 37, 1009-1010.
- Schneider, L. J., & Overton, T. D. (1983). Holland personality types and academic achievement. Journal of Counseling Psychology, 30, 287-289.
- Welsh, G. S. (1975). Creativity & intelligence: A personality approach. Chapel Hill, N.C.: Institute for Research in Social Science.





Table 1

Means and Standard Deviations for the Three Groups

Group	Variable	M	SD
Total	Ai	18.515	3.880
	Dog	94.000	27.550
Male	Ai	17.588	3.589
	Dog	98.235	25.560
Female	Ai	18.837	3.960
	Dog	92.531	28.311

Table 2

Correlations for the Three Groups

Group	Correlation	Probability
Total	-.487	.001
Male	-.494	.042
Female	-.477	.001

## APPENDIX

## APPENDIX

## ROKEACH'S DOGMATISM SCALE

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

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

NOW OPEN THE BOOKLET AND GO AHEAD



1. The United States and Russia have just about nothing in common.
2. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.
3. Man on his own is a helpless and miserable creature.
4. It is only natural for a person to be rather fearful of the future.
5. It is better to be a dead hero than to be a live coward.
6. In the history of mankind there have probably been just a handful of really great thinkers.
7. Of all the different philosophies which exist in this world there is probably only one which is correct.
8. In times like these, a person must be pretty selfish if he considers primarily his own happiness.
9. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
10. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.
11. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all."
12. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
13. Fundamentally, the world we live in is a pretty lonesome place.
14. There is so much to be done and so little time to do it in.
15. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.
16. If given the chance I would do something of great benefit to the world.

17. It is only when a person devotes himself to an ideal or a cause that life becomes meaningful.
18. 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.
19. A group which tolerates too much differences of opinion among its own members cannot exist for long.
20. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.
21. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
22. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
23. Most people just don't give a "damn" for others.
24. Once I get wound up in a heated discussion I just can't stop.
25. While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, or Beethoven, or Shakespeare.
26. There are a number of people I have come to hate because of the things they stand for.
27. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.
28. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
29. My blood boils whenever a person stubbornly refuses to admit he's wrong.
30. 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.
31. The present is all too often full of unhappiness. It is only the future that counts.

32. Most people just don't know what's good for them.
33. I'd like it if I could find someone who would tell me how to solve my personal problems.
34. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
35. The main thing in life is for a person to want to do something important.
36. A man who does not believe in some great cause has not really lived.
37. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
38. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.
39. A person who thinks primarily of his own happiness is beneath contempt.
40. 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.