

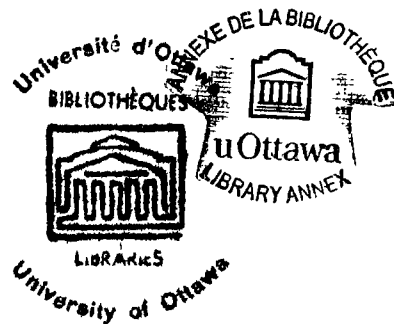
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AN EMPIRICAL INVESTIGATION
OF THE RELATIONSHIP BETWEEN MORAL
JUDGMENT AND FIELD-DEPENDENCE-
INDEPENDENCE

by Larry P. Regan

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the University of Ottawa in partial fulfillment of
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CURRICULUM STUDIORUM

Larry Regan was born in St. Thomas, Ontario on July 28, 1939. He obtained the Degree of Bachelor of Arts from the University of Western Ontario, London, in 1968 and the Degree of Master in Education from Wayne State University, Detroit, Michigan, in 1971.

TABLE OF CONTENTS

Chapter	Page
INTRODUCTION	vi
I.- REVIEW OF THE LITERATURE.....	1
1. Kohlberg's Cognitive-Developmental Stage Theory of Moral Development	1
2. Field-Dependence-Independence Cognitive Style	17
3. Moral Judgment and Field-Dependence- Independence	32
4. Summary and Basic Hypothesis	39
II.- EXPERIMENTAL DESIGN.....	41
1. The Sample	41
2. The Research Instruments	44
3. Collection of Data	47
4. Analysis of Data	49
III.- PRESENTATION OF RESULTS.....	50
1. Review of the Problem and Hypothesis	50
2. Results of Testing the Hypothesis	50
IV.- DISCUSSION OF THE RESULTS.....	55
SUMMARY AND CONCLUSIONS.....	59
BIBLIOGRAPHY.....	61
Appendix	
1. MODIFIED KOHLBERG MORAL DILEMMA TEST.....	64
2. THURSTONE'S CLOSURE FLEXIBILITY TEST (FORM A).....	70
3. SCORES ON KOHLBERG'S MORAL DILEMMAS TEST AND THURSTONE'S CFT (FORM A) FOR FIELD- DEPENDENT SUBJECTS BY AGE AND SEX.....	79
SCORES ON KOHLBERG'S MORAL DILEMMA TEST AND THURSTONE'S CFT (FORM A) FOR FIELD- INDEPENDENT SUBJECTS BY AGE AND SEX.....	80
4. <u>ABSTRACT OF AN EMPIRICAL INVESTIGATION OF THE RELATIONSHIP BETWEEN MORAL JUDGMENT AND FIELD-DEPENDENCE-INDEPENDENCE.....</u>	81

LIST OF TABLES

Table		Page
I.-	Mean and Standard Deviation for Field-Dependent and Field-Independent Males and Females on the Kohlberg Moral Dilemma Test.....	52
II.-	ANOVA for Field-Dependent and Field-Independent Males and Females on Kohlberg's Moral Dilemma Test.....	53

INTRODUCTION

Moral development is currently receiving considerable attention in our society. Lawrence Kohlberg's cognitive-developmental theory of moral development offers a basis for understanding the nature of the moral development process.

Recent studies^{1,2} have demonstrated a significant relationship between moral maturity as conceived of by Piaget in his moral development theory and Witkin's concept of field-dependence-independence cognitive style.

The relationship established by those studies cited above is further explored in the present study, in which moral maturity, as conceived of by Kohlberg in his moral development theory, is related to field-dependence-independence.

The thesis is divided into four chapters. The first chapter presents a review of the literature concerning both Kohlberg's cognitive-developmental theory of moral development and Witkin's concept of field-dependence-independence. The chapter concludes with the theoretical

1. Michael Schleifer, Moral Judgments of Children, Unpublished Doctoral Dissertation, McGill University, 1971.

2. Lillian Caring, The Relation of Cognitive Style, Sex and Intelligence to Moral Judgment in Children, Unpublished Doctoral Dissertation, New York University, 1970.

rationale of the study, the statement of the problem, and the research hypothesis. The second chapter presents the experimental design of the study, while in the third chapter the results of the study are presented. A discussion of the results and a suggestion for further research are provided in the fourth chapter. The thesis concludes with a summary of the findings, an annotated bibliography, appendices, and an abstract.

CHAPTER I

REVIEW OF THE LITERATURE

The following review falls into two main sections. The first section is concerned with field-dependence-independence as measured and described by Witkin and his colleagues. The second section outlines the nature of moral development as developed theoretically and methodologically by Kohlberg. Finally, the theoretical basis for the present inquiry is presented.

1. Kohlberg's Cognitive-Developmental Stage Theory of Moral Development.

Lawrence Kohlberg has proposed a cognitive developmental stage theory of moral development which stresses the role of cognitive processes in moral development and which attempts to explain universal and natural trends in that development.¹

Moral development, as defined by Kohlberg, is a process of restructuring universal human tendencies of empathy (concern for the welfare of others) and justice

1. Lawrence Kohlberg, "Stage and Sequence. The Cognitive Developmental Approach to Socialization" in D. Gaslin (ed.), Handbook of Socialization Theory and Research, New York, Rand McNally, 1969, p. 347-480.

(concern for equality and reciprocity).² Kohlberg argues that a culturally universal definition of morality can be arrived at only if morality is thought of as the form of moral judgment instead of the content of specific beliefs.³ That is, moral maturity is seen as the capacity to make decisions and judgments which are moral. Moral decisions and judgments are based on differentiated, integrated, and comprehensive principles of justice. Further, moral maturity is seen as the capacity to act in accordance with such principles.⁴

Kohlberg has based his theory on that of Piaget, who proposed that moral development is the outcome of an active process, involving the development of certain cognitive capacities in conjunction with the exposure to new modes of social experience which provide an

2. Lawrence Kohlberg, "Stages of Moral Development as a Basis for Moral Education" in C. Beck, B. Crittenden and E. Sullivan (eds.), Moral Education: Interdisciplinary Approaches, Toronto, University of Toronto Press, 1971, p. 65.

3. L. Kohlberg, "Moral and Religious Education and the Public Schools: A Developmental View" in T. Sizer (ed.), Religion and Public Education, Boston, Houghton-Mifflin, 1967, p. 164-183.

4. L. Kohlberg, "Development of Moral Character and Moral Ideology" in M. Hoffman and L. Hoffman (eds.), Review of Child Development Research, New York, Russell Sage Foundation, Vol. 1, 1964, p. 425.

opportunity to enhance role-taking skills.⁵ Moral development occurs in stages which represent cognitive-structural transformation. The moral stages represent successive modes of taking the role of others in social situations. The child is conceived of as an active individual who structures his perceived environment and moral stages develop through the interaction of the child's structuring tendencies and the structural features of the environment.

Kohlberg initially studied seventy-two boys, divided into ages ten, thirteen and sixteen, who were drawn from a broad social base. He conducted the study using individual interviews recorded on tape for future analysis. These interviews consisted of moral problems in the form of stories presented to the subjects. The stories illustrated a conflict between obedience to legal, social rules and the needs and welfare of other human beings. A typical story involved deciding whether a husband should break into a drug store to obtain an

5. Jean Piaget, "The Moral Judgment of the Child," London, Kegan, Paul, Trench, Trubner and Company, 1932, iv-418p.

6. L. Kohlberg, op. cit., 1971, p. 65.

otherwise unobtainable drug which could save his wife's life.⁷

From this early work came Kohlberg's proposal that moral development falls into three moral levels involving six different stages.

I. Preconventional Level

Stage 1. Punishment and obedience orientation

Stage 2. Naive instrumental hedonism

II. Conventional Level

Stage 3. Good-boy morality of maintaining good relations, approval of others.

Stage 4. Authority maintaining morality

III. Postconventional Level

Stage 5. Morality of Contract and democratically accepted law

Stage 6. Morality of individual principles of justice.⁸

7. L. Kohlberg, The Development of Modes of Moral Thinking and Choice in the Years Ten to Sixteen. Unpublished Doctoral Dissertation, University of Chicago, 1958.

8. L. Kohlberg, "The Development of Children's Orientations Toward a Moral Order. 1. Sequence in the Development of Moral Thought" in Vita Humana, Vol. 6, 1963, p. 11-33.

Kohlberg's original Moral Judgment Questionnaire included a scoring system which contained coding guides for each of nine hypothetical situations. Subjects were asked probing questions with regard to the various situations presented, with the emphasis placed on eliciting the subjects' reasons for particular answers. Subjects' responses were determined for each of twenty-eight basic moral concepts, such as the motive for action given by the subject or the value given by the subject to human life over other considerations. Each aspect is defined at each level on a six level scale which corresponds to and defines the six stages of moral judgment.⁹ A level definition of the moral aspect, Motive Given for Rule Obedience, is as follows:

- Level 1 - Obey rules to avoid punishment.
- Level 2 - Conform to obtain favors, have favors returned and so on.
- Level 3 - Conform to avoid disapproval, dislike by others.
- Level 4 - Conform to avoid censure by legitimate authorities and resultant guilt.
- Level 5 - Conform to maintain respect of the impartial spectator judging in terms of community welfare.
- Level 6 - Conform to avoid self-condemnation.¹⁰

9. L. Kohlberg, op. cit., 1973.

10. L. Kohlberg, The Child as a Moral Philosopher, in Psychology Today, September, 1968, p. 25-30.

Kohlberg outlined the basic procedure for assignment of stage assignment scores. Each subject's responses to questions about the dilemmas is classified according to aspect and stage. A profile of each subject is derived from the percentage of statements given at each stage. The profile of percentage use classifies the subject in terms of a global score which indicates the stage most used.¹¹

Most global scores are mixed scores indicating the dominant stage and the adjacent stage most used. There are very few pure types, in that regardless of which dilemma is used, more than fifty percent of most people's thinking will be at a single stage with the rest distributed between the immediately adjacent stages.¹² Studies reported by Kohlberg indicate a self-consistency in moral reasoning, in that a general factor of moral level is evident regardless of the moral aspect under consideration. An individual at Stage Six on a cognitive aspect like the value of life would likely be found at stage six on an affective aspect like motive for difficult

11. M. Blatt and L. Kohlberg, "The Effects of Classroom Moral Discussion upon Children's Level of Moral Judgment" in The Journal of Moral Education, Vol. 4, No. 2, 1975, p. 135-136.

12. L. Kohlberg, op. cit., 1969, p. 38.

moral action.¹³ Inter-judge reliability in assigning stage scores is reported by Kohlberg to range from .71 to .91¹⁴ and the stages have been replicated in several different countries.¹⁵

Kohlberg's moral stages have been found to be age-developmental in nature. That is, age trend studies have indicated that children in early elementary school tend to utilize pre-conventional Stage One and Stage Two thinking and that during the late elementary school years, (age ten to thirteen), there is a general movement to conventional Stage Three and Stage Four thinking.^{16,17} Further, it was indicated that while the level of maturity at age ten does not indicate the level that will be attained in adulthood, it appears that those who do not reach conventional stage reasoning by age thirteen are

13. L. Kohlberg, op. cit., 1969, p. 36-38.

14. James Rest, Elliot Turiel, and Lawrence Kohlberg, "Level of Moral Development as a Determinant of Preference and Comprehension of Moral Judgments Made by Others", in Journal of Personality, No. 37, 1969.

15. L. Kohlberg, op. cit., 1969, p. 38.

16. Ibid., p. 11-33.

17. Edmund Sullivan and Clive Beck, "A Developmental Approach to Assessment of Moral Education Programmes: A Short Commentary" in Journal of Moral Education, Vol. 4, No. 1, 1974, p. 62.

unlikely to attain post conventional stage reasoning in adulthood.¹⁸

Kohlberg contends that the moral stages he proposes constitute a universal, invariant sequence and that they form a hierarchy of functioning. By hierarchy of functioning is meant that each succeeding stage is an advance over the preceding stage in being a more differentiated and integrated structure.¹⁹ Studies indicating support for those claims will now be reviewed.

Studies which have replicated both the stage and age-trends in the United States, Taiwan, Mexico, Turkey, and Canada indicate that the stages are universal.^{20,21}

Turiel²² tested the invariant and hierarchic

18. Lawrence Kohlberg and Elliot Turiel, "Moral Development and Moral Education" in S. Lesser (ed.), Psychology and Educational Practice, Glenview, Illinois, Scott Foresman and Company, 1971, p. 448.

19. L. Kohlberg, op. cit., 1969, p. 36-38.

20. L. Kohlberg and R. Kramer, "Continuities and Discontinuities in Childhood and Adult Moral Development" in Human Development, Vol. 12, 1969, p. 104-105.

21. Edmund Sullivan, George McCullough and Mary Stager, "A Developmental Study of the Relationship Between Conceptual, Ego, and Moral Development", in Child Development, Vol. 41, 1970, p. 399-411.

22. E. Turiel, "An Experimental Test of the Sequentiality of Developmental Stages in the Child's Moral Judgments", in Journal of Personality and Social Psychology, 1966, Vol. 3, p. 611-618.

nature of Kohlberg's stages. He hypothesized: (a) that if the stages form an invariant sequence, learning results more from exposure to the stage directly above one's level than to stages further above and (b) that if the stages are hierarchic, in that they involve integration of the previous stages, then more learning results from exposure to the stage directly above than to the stage directly below. The subjects' stages were determined in a pretest, and they were then divided into three groups. In the experimental condition the subjects were exposed to either the stage one below, one above, or two above the initial dominant stage. The results of this study confirmed Turiel's hypotheses, since exposure to the stage directly above was the most effective treatment.

Rest, Turiel and Kohlberg²³ did a study investigating the invariant hierarchial nature of the moral stages. They offered three kinds of friendly "advice" to the subjects about hypothetical moral problems at levels one above (+1), two above (+2) and one below (-1) the subjects' dominant moral stage. Their results

23. James Rest, Elliot Turiel, and Lawrence Kohlberg, "Level of Moral Development as a Determinant of Preference and Comprehension of Moral Judgments Made by Others", in Journal of Personality, Vol. 37, 1969, p. 225-252.

indicated that subjects judged statements above their own stage level to be better than statements below their stage level. They also found +2 advice more difficult to comprehend than +1 advice and +1 advice more difficult than -1 advice. Finally it was found that subjects began to make increased use of the moral concepts they were exposed to in the +1 condition in their own moral reasoning. The authors argued that evidence in their study of a hierarchy of comprehension of statements and of assimilation by their subjects of thinking of the +1 stage rather than the +2 or -1 stages supported Kohlberg's proposal of invariant hierarchic stages.

Kohlberg²⁴ contends that there exists a universal invariant sequence of development because each moral stage represents a better cognitive organization than the one preceeding it. At each stage, the same basic moral concept is defined but at each higher stage this definition is more differentiated, more integrated and more general or universal. As an example the sequence of stage definitions of a basic moral aspect, the Value of Human Life, is presented.

24. L. Kohlberg, "The Child as a Moral Philosopher", in Psychology Today, September, 1968, p. 25-30.

1. The value of a human life is confused with the value of physical objects and is based on the social status or physical attributes of its possessor.
2. The value of a human life is seen as instrumental to the satisfaction of the needs of its possessor or of other persons.
3. The value of a human life is based on the empathy and affection of family members and others toward its possessor.
4. Life is conceived as sacred in terms of its place in a categorical moral or religious order of rights and duties.
5. Life is valued both in terms of its relation to community welfare and in terms of life being a universal human rights.
6. Belief in the sacredness of human life as representing a universal human value of respect for the individual.

Transition from level to level in Kohlberg's stages has been explained by Turiel in terms of a process of self-regulated "progressive equilibration" which operates in the context of a self-constructive process of organism-environment interaction. Development is continually directed toward increasing equilibrium and each moral stage is a more equilibrated state of functioning than the previous stage. Equilibration means that each stage is a more internally consistent and a more

adequate way of solving moral problems.²⁵ It is proposed that the motivational impetus for moving from one stage to the next is what has been called "competence motivation".²⁶ The concept of competence motivation as proposed by White²⁷ suggests that organism-environment interactions are directed toward a more effective understanding of the environment. Developmental progress is caused by attempts at a more adaptive assimilation of the environment.

As Turiel²⁸ outlines the process, a person first experiences cognitive conflict. He becomes aware of inadequacies and contradictions in his existing stage for understanding moral problems and resolving the conflicts encountered. This results in a reorganization of

25. Elliot Turiel, "Stage Transition in Moral Development", in R. M. Travers (ed.), Second Handbook of Research on Teaching, Chicago, Rand McNally, 1973, p. 736-739.

26. E. Turiel, "Developmental Processes in the Child's Moral Thinking" in Trends and Issues in Developmental Psychology, P. Mussen, J. Langer, and M. Convington (eds.), New York, Holt Rinehart and Winston, 1969, p. 102.

27. Robert W. White, "Motivation Reconsidered: The Concept of Competence" in Psychological Review, Vol. 66, No. 5, 1959, p. 329.

28. E. Turiel, op. cit., 1973, p. 746-747.

structure toward a more equilibrated state.

Turiel²⁹ likens the process to Piaget's³⁰ cognitive developmental theory which proposes the establishment of greater equilibrium through assimilatory and accommodatory functions, so that the child who responds to a state of disequilibrium by becoming more competent with higher level moral concepts is said to be assimilating these concepts by changing his form of thought in a process of accommodation.

Kohlberg views cognitive-structural features as the core of moral development. However, maturity of moral judgment is not highly correlated with IQ or verbal intelligence. Correlations are only in the thirties, accounting for ten percent of the variance.³¹ Level of moral thought can be clearly distinguished from general intellectual level.

29. E. Turiel, op. cit., 1973, p. 746-747.

30. J. Piaget, Six Psychological Studies, New York, Random House, 1967, p. 3-8.

31. L. Kohlberg, "The Cognitive-Developmental Approach to Moral Education" in Phi Delta Kappan, Vol. LVI, No. 10, 1975, p. 671.

Level of moral judgment appears to be a quite unitary or consistent personal characteristic distinct from intelligence or specific subcultural background and beliefs.³²

Kohlberg states that moral development proceeds as part of general ego-development:

While developmental moral education widens the focus of cognitive-developmental education beyond the purely cognitive, there is still a broader unity called ego-development, of which both cognitive and moral development are part.³³

Sullivan, McCullough and Stager found a correlation of 0.66, N = 120, P < 0.01, for Kohlberg's moral judgment stages and Loevinger's Ego Development Test.³⁴ Kohlberg pointed out that autonomy of judgment, meaning the ability to maintain direction by one's own moral beliefs in the face of social pressure, correlated at the 0.44 level with moral judgment maturity (N and P level not supplied).³⁵

32. L. Kohlberg, "Development of Moral Character and Moral Ideology" in L. Hoffman (ed.), Review of Child Development Research, Vol. 1, 1964, p. 405.

33. L. Kohlberg and R. Mayer, "Development as Aim of Education" in Harvard Educational Review, Vol. 42, No. 4, 1972, p. 491.

34. E. Sullivan, G. McCullough and M. Stager, op. cit., 1970, p. 399-411.

35. L. Kohlberg, op. cit., 1964, p. 409.

Schleifer and Douglas, working with three to six year olds, reported a significant correlation, $r = 0.57$, $N = 37$, $P < 0.01$, between field-dependent-independent cognitive style and moral maturity.³⁶ Reciprocal role-taking ability has been related to the child's reorganization to a conventional level of moral thought.³⁷

Studies of sex differences in moral maturity indicate no clear-cut trend. Kohlberg and Kramer³⁸ concluded from analysis of the data in a longitudinal study that more women than men appeared to stabilize at Stage Three in adulthood. They reasoned that Stage Three personal concordance morality may be functional morality for housewives and mothers. Caring reported male subjects significantly more morally mature than female subjects amongst ten to twelve year olds.³⁹ On the other

36. Michael Schleifer and Virginia Douglas, "Moral Judgments, Behavior and Cognitive Style in Young Children", in Canadian Journal of Behavioral Science, Vol. 5(2), 1973, p. 133-144.

37. Robert L. Selman, "The Relation of Role-Taking to the Development of Moral Judgment in Children", in Child Development, Vol. 42, 1971, p. 79-91.

38. L. Kohlberg and R. Kramer, op. cit., 1969, p. 108.

39. Lillian Caring, The Relation of Cognitive Style, Sex and Intelligence to Moral Judgment in Children. Unpublished Doctoral Dissertation, New York University, 1970, p. 90.

hand, Simon and Ward,⁴⁰ with a population of eleven to sixteen year olds, found no significant sex differences. Arbuthnot, too, found no sex differences amongst a sample of college students (aged seventeen to twenty-one).⁴¹

Kohlberg's cognitive-developmental stage theory of moral development has been outlined. Summarized, the theory states that moral judgment is a role-taking process with a new logical structure at each stage, which is formulated as a justice structure and is progressively more comprehensive, differentiated, and equilibrated than the prior structure.

While Kohlberg's theory of moral development has aroused a great deal of interest and garnered a large number of supporters, it is not without its critics. Graham⁴² suggests that Kohlberg does not adequately

40. A. Simon and L. Ward, "Variables Influencing Pupils' Responses on the Kohlberg Schema of Moral Development", in Journal of Moral Education, Vol. 2, No. 3, 1973, p. 283-286.

41. Jack Arbuthnot, "Modification of Moral Judgment Through Role Playing" in Developmental Psychology, Vol. 11, No. 3, 1975, p. 319-324.

42. D. Graham, Moral Learning and Development, New York, Wiley and Sons, 1972, p. 237.

indicate how, by what mechanisms, the change from one sequential stage to the next is actually brought about. Kuhmerker⁴³ questions Kohlberg's proposal that it is verbalization about artificially created dilemmas which stimulates movement from one stage of moral development to the next. She suggests that not enough attention has been paid to the social process involved. It may be that some of the changes brought about by moral dilemma discussions are influenced by the interest, empathy and good example of the discussion leader. The nature and measures of field-dependence-independence as postulated by Witkin and his colleagues will now be presented, to be followed by the theoretical rationale for the present inquiry.

2. Field-Dependence-Independence Cognitive Style.

The developmental concept, "psychological differentiation" has provided the theoretical framework for the research of Witkin et al. in the area of cognitive

43. Lillian Kuhmerker, "Growth Toward Principled Behaviour: Lawrence Kohlberg's Studies of Moral Development", in Journal of Moral Education, Vol. 2, No. 3, 1973, p. 261.

style.^{44,45} The basis for the differentiation concept can be found in the work of Werner who stated that:

...whenever development occurs it proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and hierarchic integration.⁴⁶

Witkin uses the term "differentiation" to refer to the complexity of the structure of a personality. A more differentiated system is more complex in that it contains more specialized subsystems capable of specific reactions to specific stimuli. On the other hand, less differentiated systems tend to react in a diffuse, rudimentary manner to any of a variety of stimuli. For example, in the more differentiated system, parts of a perceptual field are experienced as discrete rather than

44. H. A. Witkin, H. B. Lewis, M. Hertzman, K. Machover, P. S. Meissner and S. Wopner, Personality Through Perception, New York, Harper, 1954, xxvi-571p.

45. -----, R. B. Dyke, H. A. Faterson, D. R. Goodenough, and S. A. Karp. Psychological Differentiation, New York, Wiley, 1962, v-418p.

46. H. L. Werner, "The Concept of Development From a Comparative and Organismic Point of View" in D. B. Harris (ed.), The Concept of Development: An Issue in the Study of Human Behavior, Minneapolis, University of Minnesota Press, 1957, p. 126.

fused with their background, impulses are channelized rather than diffuse, and more or less discrete feelings and needs may be present. With respect to an individual's psychological system, a highly differentiated person can more clearly separate feeling from perceiving, thinking from acting, whereas a less differentiated person tends to diffuse these areas.⁴⁷

For Witkin, the extent of differentiation in the area of perception is reflected in degree of field-dependence-independence which he defines as a cognitive style which is in turn defined as

...the characteristic self-consistent mode of functioning found pervasively throughout an individual's cognitive, that is, perceptual and intellectual activities.⁴⁸

Witkin has stated that the best way to begin a description of field-dependence-independence is to outline the actual situations used to identify individual differences along this dimension.⁴⁹ The three main

47. H. A. Witkin et al., op. cit., 1962, p. 9-11.

48. H. A. Witkin, "A Cognitive Approach to Cross-Cultural Research", in International Journal of Psychology, Vol. 2, No. 4, 1967, p. 234.

49. H. A. Witkin, The Role of Cognitive Style in Academic Performance and in Teacher-Student Relations (Research Bulletin), Princeton, Educational Testing Service, February, 1973, p. 2.

procedures, as described by Witkin et al.,⁵⁰ used to identify those individual differences, will now be outlined.

In the Body Adjustment Test (BAT), the apparatus consists of a small room into which a chair is projected. Room and chair can be tilted clockwise or counter-clockwise, together or independently of each other. The subject's chair is brought to prepared tilted positions and the subject's task is to adjust his body to an upright position. The difference between the chair's adjusted position and the true upright constitutes the subject's score.

The Rod and Frame Test (RFT) consists of the subject being seated in a completely darkened room facing a luminous rod suspended within a luminous frame. The subject is required to adjust the rod to the true vertical, when his body is tilted or upright, and when the rod and frame are tilted in the same or opposite directions. The subject's score is the extent of absolute deviation of the rod setting from the true upright.

The Embedded Figures Test (EFT) is a series of complex figures in which a series of simple figures is

50. H. A. Witkin et al., op. cit., 1962, p. 36-40.

embedded. Witkin's standard test is made up of twenty-four different figures. Five minutes is allowed for each figure. The mean amount of time taken for the task is the subject's score. The raw score is converted into a standard score signifying relative field-dependence, or relative field-independence.

The three tests just described, the BAT, RFT and the EFT, produce an indicator of the extent to which the subject's perception of an item has been influenced by the organized field surrounding it.

Because at one end of the performance range, perception is strongly influenced by the prevailing field and thus less accurate, that mode of perception is called "field-dependent". On the other hand, where a person is able to deal with an item independently of the surrounding field and is more accurate in the perceptual tests described above, the designation "field-independent" is used.

Witkin reports that people tend to be self-consistent in performance across the three perceptual tasks described above.⁵¹ Other studies have found evidence of such consistency. Elliot indicated a correlation of 0.42

51. H. A. Wilkin, D. R. Goodenough, and S. A. Karp, "Stability of Cognitive Style from Childhood to Young Adulthood" in Journal of Personality and Social Psychology, Vol. 7, No. 3, 1967, p. 291-300.

($p < .01$, $N = 128$) between the RFT and EFT.⁵² In another study, Dubois and Cohen showed a correlation between the RFT and the EFT of 0.56 ($p < .01$, $N = 143$).⁵³

The current study employs one of the tests similar to the Embedded Figures Test which have been developed to assess perceptual style; namely Thurstone's Closure Flexibility Test (Form A). This paper and pencil test is easily scorable and, while it is generally administered as a group test, it can be administered individually. It consists of forty-nine items, each of which comprises a simple figure presented on the left of the page, followed by a row of four more complex drawings to the right. The subject's task is to identify those complex figures which contain the simple figure and those which do not. The raw score, which is converted into a standard score, is arrived at by subtracting the wrong answers from the right answers.

Support for Thurstone's Closure Flexibility Test as a measure of field-dependence-independence has been

52. Rogers Elliot, "Interrelationships Among Measures of Field Dependence, Ability, and Personality Traits", in Journal of Abnormal and Social Psychology, Vol. 63, No. 1, 1961, p. 31.

53. Thomas E. Dubois and Walter Cohen, "Relationship Between Measures of Psychological Differentiation and Intellectual Ability" in Perceptual and Motor Skills, Vol. 31, 1971, p. 411-416.

indicated by Witkin et al., who state: "Performance (on Thurstone's Concealed-Figures Test) has been found to relate significantly to performance in the tests of our perceptual battery".⁵⁴

It has been explained that people tend to be self-consistent in performance across the series of perceptual tasks just described. The picture of a consistent mode of field-dependent or field-independent behavior was found to characterize a person's intellectual activity as well as his perceptions. Witkin, reporting on studies done in his laboratory on intellectual activity, concludes that relatively field-independent people are significantly better at intellectual tasks in which essential elements must be isolated from the context in which they are presented and recombined in new relationships; that is, intellectual tasks which are structurally similar to the perceptual situations.⁵⁵ It was found, for example, that field-independent subjects did better on the block design, picture completion and object assembly sub-tests of the WISC, while they did no better on the verbal comprehension

54. H. A. Witkin et al., op. cit., 1962, p. 49.

55. -----, "Cognitive Development and the Growth of Personality", in Acta Psychologica, Vol. 18, 1961, p. 249.

and attention-concentration sub-tests.⁵⁶ Witkin contends that those kinds of results indicate that field-independent children are not superior to field-dependent children in general intelligence.⁵⁷ A study by Schleifer and Douglas supported that contention, in that no significant correlation of field-dependence with intelligence was found.⁵⁸

Not all observers agree with Witkin's contention that field-independent people are not superior to field-dependent people in general intelligence. Zigler maintains that field-dependence is simply a reflection of general intelligence at work.⁵⁹ However, Kagan and Kogan, after a review of the literature, conclude that the field-dependence construct can be considered a psychological dimension separate from general intelligence.⁶⁰

56. H. A. Witkin, et al., op. cit., 1962, p. 249-250.

57. Ibid., p. 250.

58. Michael Schleifer and Virginia Douglas, "Moral Judgments, Behaviour and Cognitive Style in Young Children" in Canadian Journal of Behavioral Science, Vol. 5, No. 2, 1973, p. 133-144.

59. E. Zigler, "A Measure in Search of a Theory" in Contemporary Psychology, Vol. 8, No. 4, p. 133-135.

60. Jerome Kagan and Nathan Kogan, "Individual Variation in Cognitive Processes" in P. Mussen (ed.), Carmichael's Manual of Child Psychology, New York, Wiley and Sons, 1970, p. 1326.

Field-dependence-independence cognitive style is developmental in nature in that young people tend to perceive in a relatively global, field dependent way but as they grow older, their perception assumes a more analytical, structured, field-independent form. There are individual differences in the extent of differentiation at any given age. That is, people are not either field-independent or field-dependent but rather range along the continuum of field-dependence.⁶¹

Level of differentiation will be relatively stable during development so that the child who at an early age is less differentiated than his peers will tend to occupy a similar position on the differentiation continuum as a young adult⁶² Witkin et al., have demonstrated a rather high stability of relative performance on field-independence tests over various periods from age 8 to 24 years. The growth curves presented in these studies suggest that development tends to reach a plateau in young adulthood.⁶³

Small but pervasive sex differences have been found in field-dependence-independence. Observation of

61. H. A. Witkin et al., op. cit., 1962, p. 248-250.

62. -----, D. Goodenough and S. Karp, op. cit., 1967, p. 291-300.

63. Ibid.

groups of widely different backgrounds within the United States, France, Holland, Italy, Israel, Japan and Hong Kong⁶⁴ indicates that men are more field-independent than women. It should be noted that this sex difference is small compared to the range of individual differences within each sex and that sex differences have not been observed in children aged 4 to 8⁶⁵ or in geriatric groups.⁶⁶ Also, sex differences were not found among the Eskimos whose way of life necessitates an emphasis on independence and self-reliance in both boys and girls.⁶⁷

The characteristic of child-rearing that seems most closely associated with developing a more field-independent style of functioning is the early encouragement by parents of autonomous functioning in the child.⁶⁸

64. H. A. Witkin, "Social Influences in the Development of Cognitive Style" in D. Goslin (ed.), Handbook of Socialization Theory and Research, New York, Rand, McNally, 1969, p. 701-702.

65. D. R. Goodenough, C. J. Eagle, "A Modification of the Embedded Figures Test for Use With Young Children" in Journal of Genetic Psychology, 1963, No. 3, p. 67-74.

66. D. Schwartz and S. Karp, "Field Dependence in a Geriatric Population" in Perceptual and Motor Skills, Vol. 24, 1967, p. 495-504.

67. R. S. MacArthur, "Sex Differences in Field Dependence for the Eskimo: Replication of Berry's Findings", in International Journal of Psychology, Vol. 2, No. 2, 1969, p. 139-140.

68. Norman A. Corah, "Differentiation in Children and their Parents", in Journal of Personality, Vol. 33, 1965, p. 300-308.

Witkin's "psychological differentiation" hypothesis proposes that general system differentiation can be determined by examining individual indicator areas for their degree of articulation (that is, analysis and structuring of experience). As these indicators were regarded as different expressions of an underlying process of development toward greater psychological complexity, the "differentiation hypothesis" predicted that the indicators would be significantly interrelated within an individual.⁶⁹

Subsequent investigations confirmed the prediction stated above. Persons whose field-dependent perception suggests limited differentiation also show limited differentiation in their experience of their bodies and in their sense of separate identity. Field-dependent perceivers also are more likely to use such global defenses as repression and denial rather than the more specialized defenses such as intellectualization and isolation used by field-independent perceivers.⁷⁰

Witkin suggests that the interrelationships found amongst the differentiation indicators cited above, show

69. H. A. Witkin et al., op. cit., 1962, p. 15-16.

70. -----, D. Goodenough and Karp, op. cit., 1967, p. 291-300.

that:

...their intrinsically coherent patterns suggest consistency in psychological functioning that pervades the individual's perceptual, intellectual, emotional, motivational, defensive, and social aspirations.⁷¹

In summing up studies on the relationship between field-dependence-independence and social interaction, Witkin states that a relatively field-dependent person is likely to let the prevailing social context define his attitudes, beliefs and feelings. His self-view is subject to immediate social pressures. Reflecting this use of external sources for self-definition, field-dependent persons are selectively attentive to the human content of the environment. Thus they spend more time looking at the faces of those with whom they interact; they tend to be better at remembering faces; and they are better at remembering verbal messages that are more social in content. Overall, the field-dependent person is particularly sensitive and tuned to the social environment.⁷²

Field-independent people, on the other hand, tend to be regarded by others as more socially independent, show less interest in and need for people and a relatively intellectual and impersonal approach to problems. Field-independent people are less influenced by authority,

71. H. A. Witkin et al., op. cit., 1962, p. 4.

72. -----, op. cit., 1973, p. 7-10.

tending to be guided by values, standards, and needs of their own. They are likely to have a stable self-view and they are less attentive to subtle social cues given by others. Some field-independent people have been found to be strikingly isolated individuals, over-controlled, cold and distant, and unaware of their stimulus value.⁷³

Witkin points out, however, that people with limited differentiation should not be considered as being more developed than people with greater differentiation, in authentic inter-personal skills.

....Certainly, empathy involves more than, for example, the greater alertness to facial expressions found among the less differentiated children, an alertness which reflects need for acceptance and approval, rather than a genuine response to and regard for another person.⁷⁴

Witkin further argues that not only more authentic inter-personal skills, but a higher level of maturity, are more likely to be found amongst highly differentiated persons.⁷⁵ This view of the relatively more authentic inter-personal skills and higher maturity level of the

73. H. A. Witkin et al., op. cit., 1962, p. 155-156.

74. Ibid., p. 266.

75. Ibid., p. 388.

field-independent person seems consistent with Witkin's proposal that a relationship between the field-dependence-independence construct and ego development exists.

Witkin states that the qualities of experience and characteristics of defenses related to the field-dependent-independent cognitive styles could be considered,

...expressions of ego functioning and the contrasting constellations studied conceived as products of different egos, specifically of a more differentiated or less differentiated ego.⁷⁶

Subsequent studies have indicated the existence of a relationship between field-dependence-independence and factors associated with ego development. Vaught found field-independence significantly related to ego-strength.⁷⁷ Under conditions of both sensory and social isolation more stress and general anxiety are reported by field-dependent subjects.⁷⁸ Crandall and Sinkeldam found field-independence in children (aged six to twelve)

76. Ibid., p. 388.

77. G. M. Vaught, "The Relationship of Role Identification and Ego Strength to Sex Differences in the Rodard Frame Test" in Journal of Personality, Vol. 33, 1965, p. 271-283.

78. M. Zuckerman, "Field Dependency as a Predictor of Responses to Sensory and Social Isolation" in Perceptual and Motor Skills, Vol. 27, 1968, p. 757-758.

to be associated with less seeking of affection from adults, more concern with motor mastery, more independent achievement efforts, more test persistence, and overall achievement behavior.⁷⁹ Field-independent subjects have been found to be more reflective,⁸⁰ and have been rated lower on aggression than field-dependent subjects by their teachers.⁸¹

An outline of Witkin's concept of field-dependence-independence cognitive style as an indicator of psychological differentiation has been presented. It was pointed out, among other things, that either field-dependence or independence are characteristic modes of functioning found pervasively throughout an individual's perceptual and intellectual activities. Further, it was noted that while the less differentiated person is particularly sensitive

79. V. Crandall, C. Sinkeldam, "Children's Dependent and Achievement Behaviors in Social Situations and their Perceptual Field Dependence" in Journal of Personality, 1964, Vol. 32, p. 1-22.

80. S. Campbell and V. I. Douglas, "Cognitive Styles and Responses to the Threat of Frustration" in Canadian Journal of Behavioural Science, Vol. 4, 1972, p. 30-42.

81. Michael Schleifer and Virginia Douglas, "Moral Judgments, Behaviour and Cognitive Style in Young Children", in Canadian Journal of Behavioural Science, Vol. 5, 1973, p. 133-144.

and tuned to the social environment, he is not to be considered more capable of authentic inter-personal relationships than a more differentiated person. Witkin's proposal of a relationship between field-dependence-independence and ego development, along with evidence supporting the proposal of such a relationship, were also presented.

These aspects of field-dependence-independence; its implications for perceptual and intellectual functioning, mode of social inter-action, and ego development, form the basis of an attempt to establish the theoretical rationale for an enquiry into the relationship between Kohlberg's theory of moral development and Witkin's concept of field-dependence-independence cognitive style.

3. Moral Judgment and Field-Dependence-Independence

Kohlberg views moral judgment as developing in a parallel fashion with other cognitive-affective dimensions of general ego development. Kohlberg clearly emphasizes the cognitive base of moral judgment:

While motives and affects are involved in moral development, the development of these motives and affects is largely mediated by thought processes.⁸²

82. L. Kohlberg, op. cit., 1969, p. 390.

A relationship thus seems indicated between moral judgment maturity and other aspects of cognitive development. Such an aspect is Witkin's field-dependence-independence construct which is, as has been noted in the review of the literature, a cognitive style defined as a characteristic self-consistent mode of functioning found pervasively throughout an individual's perceptual and intellectual activities.

The relation between moral judgment maturity and field-dependence-independence has been investigated by a small number of researchers. Caring⁸³ and Schleifer⁸⁴ both reported that field-independent subjects achieved significantly higher moral judgment scores on Piagetan moral tasks than did field-dependent subjects. However Arbuthnot's hypothesis,⁸⁵ that field-independent subjects would achieve higher moral judgment scores than field-dependent subjects was not supported. Arbuthnot suggested that the measure he employed to measure field-dependence,

83. Lillian Caring, op. cit., 1970.

84. Michael Schleifer, Moral Judgments of Children. Unpublished Doctoral Dissertation, McGill University, 1971, p. 65.

85. Jack Arbuthnot, Field-Independence and Maturity of Moral Judgment, Critical Distinctive Feature Analysis and Perceived Hours of Control, Unpublished Doctoral Dissertation, Cornell University, 1971.

the Rod and Frame Test, did not discriminate subjects at the upper levels of field-dependence-independence in his sample.

In spite of Arbutnot's findings there appears to be grounds for establishing a relationship between Kohlberg's moral development theory and Witkin's field-dependence-independence cognitive style. Caring proposed that cognitive style operated as a determining factor in Piaget's equilibration model of moral stage development from the more immature moral realism stage to the more mature stage of reciprocity and co-operation.⁸⁶ That is, the more differentiated, analytical cognitive style permits more articulated perception and detailed observation thus permitting more rapid development of cognitive structures which will foster further development.

It is suggested by the writer of this research that field-dependence-independence cognitive style may operate as a determining factor within Kohlberg's "progressive equilibrium" process of moral stage development outlined previously in the review of the literature. If stimuli are perceived by means of a field-independent cognitive style, greater articulation accompanies

86. Lillian Caring, op. cit., 1970, p. 46-50.

assimilation. This heightened articulation increases the probability of a confrontation with moral problems in the social environment which the present moral reasoning stage cannot satisfactorily solve. The state of equilibrium resulting may stimulate greater accommodation or reorganization toward a more equilibrated moral stage. Stimuli which are interpreted by a field dependent cognitive style may be assimilated in an unarticulated, diffuse manner, thus offering fewer possibilities to confront moral problems which bring about progress toward higher moral stages. Accordingly, it seems reasonable to expect field-independence to be associated with higher moral judgment maturity.

More specific aspects of Kohlberg's theory present possibilities for this type of relationship. Kohlberg proposes that his stages represent successive modes of taking the role of others in social situations.⁸⁷ Moral role-taking involves an empathic component along with a cognitive capacity to define situations in terms of rights and duties and in terms of the perspectives of

87. L. Kohlberg "From Is to Ought: How to Commit the Naturalistic Fallacy and Get Away with It in the Study of Moral Development", in T. Mischel (ed.), Cognitive Development and Epistemology, New York, Academic Press, 1971, p. 183.

other selves.⁸⁸ In the instance of transition from Level One pre-conventional to Level Two conventional morality, the attainment of a concrete, positive and stable interpersonal relationship is an important factor.⁸⁹

Both the empathic quality required of moral role-taking in general and the capacity for positive interpersonal relationships associated with acquisition of conventional morality seem descriptive of the relatively more field-independent cognitive style described by Witkin.

Sensitivity to the moods, needs, and characteristics of others which genuine empathy implies and interest in interpersonal relations as well as freedom to engage in them, characteristically are not found among the limited differentiated group but among those in the highly differentiated group.⁹⁰

Conventional morality is defined in terms of performing good acts and maintaining the social order or the expectations of others. In the moral judgment process, the individual takes the role of significant others in his life and respects their judgment. The individual judges a moral problem from the perspective

88. L. Kohlberg, op. cit., 1964, p. 39.

89. -----, op. cit., 1971, p. 198.

90. H. A. Witkin et al., op. cit., 1962, p. 266.

of significant others in his life. Witkin's description of cognitive clarity which exemplifies the field independent vs the field dependent approach indicates that the field independent child is likely,

...to be aware of people both in their separate roles and in their relationships; his view is not limited to the immediate present but includes past, present, and future in a continuous association, he tends to be aware that people including himself have reasons for the things they do; he is apt to define people in terms of attributes that go deeper than their actions or physical characteristics.⁹¹

These qualities seem important for achieving conventional morality as it has been described and suggest that field independence is associated with higher moral judgment level.

Kohlberg's theory stresses the relationship of such ego-factors as the ability to control impulsive responses and the capacity to maintain stable focussed attention.⁹² Field-independence has been significantly related to both impulse control⁹³ and to measures of

91. H. A. Witkin et al., op. cit., 1962, p. 104.

92. P. Grim, L. Kohlberg and S. White, "Some Relationships Between Conscience and Attentional Processes" in Journal of Personality and Social Psychology, Vol. 8, No. 3, 1968, p. 239-252.

93. V. I. Douglas, "Stop, Look and Listen: The Problem of Sustained Attention and Impulse Control in Hyper-active and Normal Children" in Canadian Journal of Behavioural Science, Vol. 4, 1974, p. 259-282.

attention.⁹⁴ These characteristics of field-independence would thus seem to indicate that the field-independent cognitive style will be associated with higher moral judgment level.

Crowley trained⁹⁵ a group of children through the use of moral and non-moral stories to focus on intentionality while minimizing the influence of prominent but irrelevant cues. He showed that the quality of moral judgments can be improved by training children to "decenter" or focus on relevant cues. The child who cannot decenter tends to center on a single striking feature thus neglecting other aspects, causing distortion in reasoning. This centering tendency means that the child finds it very difficult to take into account, features of the environment which compensate for the distortion of reasoning resulting from centration. This inability to decenter seems closely related to the field-dependent cognitive style with its characteristic difficulty in disembedding. The inability to decenter, and the resultant

94. S. B. Campbell and V. I. Douglas, "Cognitive Styles and Responses to the Threat of Frustration" in Canadian Journal of Behavioural Science, Vol. 4, 1972,

95. P. M. Crowley, "Effect of Training upon Objectivity of Moral Judgment in Grade School Children", in Journal of Personality and Social Psychology, Vol. 8, 1968, p. 228-232.

focus on a single striking feature, seems analogous to being unable to free oneself from a context or to being unable to shake off one set to accept a new one. This kind of analogy seems to provide grounds for associating field-independence with higher moral reasoning.

4. Summary and Basic Hypothesis.

Kohlberg's cognitive-developmental stage theory of moral development and Witkin's concept of field-dependent-independent cognitive style have been reviewed and an attempt made to establish the basis for postulating a relationship between the two dimensions of psychological growth. The key points considered in this regard are now summarized, followed by a statement of the research hypothesis.

1. Kohlberg views moral development as cognitively based and thus correlations with other aspects of cognitive development should be expected.
2. Previous studies have established a significant relationship between field-dependence-independence and moral maturity as related to Piaget's moral stages.
3. A theoretical integration of field-dependence-independence and the cognitive-developmental stage theory of moral development seems possible on the grounds that field-dependent-independent cognitive style may constitute a limiting factor in the "progressive

- 3.- equilibration" model of moral stage transition in Kohlberg's theory.
4. The ability to decenter has been shown to relate to the level of moral maturity. The disembedding capability of the field-independent cognitive style seems analogous to the ability to decenter.
5. Certain ego-factors which have been significantly related to the field-independent cognitive style such as attentional abilities and impulse control have also been shown to be significantly related to development in moral maturity.

It would seem reasonable, from the above summary, to propose that field-independent persons may be possessed of certain abilities which are related to a measurably higher level of moral maturity. The following hypothesis is formulated to test this postulate:

Field-independent subjects will achieve significantly higher moral judgment scores than will field-dependent subjects.

CHAPTER II
EXPERIMENTAL DESIGN

This chapter presents the procedures followed to test the hypothesis stated in the preceeding chapter. The first section describes the sample while the second describes the research instruments employed. The third and fourth sections outline the method for collecting and anlyzing the data.

1. The Sample.

The sample included 361 subjects (191 boys and 170 girls) who comprised the seven grade population of two adjacent junior high schools under the jurisdiction of the Ottawa Separate School Board. This sample was of particular interest to the researcher because the late elementary school years (ages ten to thirteen) are considered by Kohlberg to be a time of movement from pre-conventional to conventional moral stages.¹

To test the hypothesis by analysis of variance

L. Lawrence Kohlberg, "Stage and Sequence. The Cognitive Developmental Approach to Socialization" in D. Gaslin (ed.), Handbook of Socialization Theory and Research, New York, Rand McNally, 1969, p. 7.

(ANOVA) it was necessary to identify the extreme groups on the field-dependence-independence continuum. A method developed by Cooper² showed that approximately 30% of the cases should be included in each of the extreme groups in order that the scores do not overlap. This method was followed in this study so that the top 30% of the subjects was designated as field-independent while the bottom 30% was field-dependent. This resulted in 108 scores in each of the two extremes of field dependence.

From each of these extremes of field dependence, a group of thirty-five students was selected for further testing with the moral judgment instrument. This selection was made by submitting to the school the names of those who were at the more extreme ends of the field dependence continuum. As explained in the Collection of Data section, due to the pressure of school affairs, the researcher was finally able to obtain fifty-eight subjects (twenty-nine field-dependent and twenty-nine field-independent) from the field dependence extremes for testing with the moral judgment maturity instrument. Three of the responses were unscorable due to the fact that there

2. Martin Cooper, Cattell's Personality Factors as Predictors of High School Performance. Unpublished Doctoral Dissertation, University of Ottawa, 1972, p. 87.

was not any one stage which received fifty per cent of the score in the subject's responses. Three out of fifty-eight unscorable responses is well within the accepted percentage.³ A measure of moral judgment maturity was obtained then for the twenty-eight field-dependent and twenty-seven field-independent subjects. The age range of the subjects was between eleven to fourteen years inclusive. The modal age was twelve years and the mean was 12.34 years.

The subjects were assigned to each of the following cells: 1) field-dependent boys, 2) field-independent boys, 3) field-dependent girls and 4) field-independent girls. The design is presented below.

	FD	FI
M		
F		

3. Nancy Porter and Nancy Taylor, How to Assess the Moral Reasoning of Students, Profiles in Practical Education, Ontario Institute for Studies in Education, No. 8, 1972, p. 8.

2. The Research Instruments.

Field-dependence-independence scores were obtained for the full sample (361 students). Moral judgment maturity scores were obtained only for those involved in the statistical analysis.

Thurstone's Closure Flexibility Test (Form A) was administered in group form as a measure of field-dependence-independence. Information regarding this test was reported in the Review of the Literature. Correlations of Thurstone's Closure Flexibility Test were reported at 0.56⁴ with Witkin's RFT and 0.55⁵ with his EFT.

The test has been supported by Witkin et al.,⁶ and employed as a group measure of field-dependence-independence by other researchers.⁷ The split-half

4. T. Dubois and W. Cohen, "Relationship Between Meaning of Psychological Differentiation and Intellectual Ability", in Perceptual and Motor Skills, Vol. 31, 1970, p. 411-416.

5. R. Elliot, "Interrelationships Among Measures of Field Dependence, Ability and Personality Traits", in Journal of Abnormal and Social Psychology, Vol. 63, No. 1, 1961.

6. H. A. Witkin, R. B. Dyke, H. A. Faterson, D. R. Goodenough, and S. A., Karp. Psychological Differentiation New York, Wiley, 1962, p. 49.

7. E. W. Gardner, "Reliability of Group-Test Scores for Cognitive Control and Intellectual Abilities Over a One-Year Period" in Perceptual and Motor Skills, Vol. 36, 1973, p. 753-754.

reliability coefficient for the test is reported in the manual as 0.78.⁸

Four of Kohlberg's moral dilemmas were used to obtain a measure of moral judgment maturity. These were administered in a group situation in written form. While Kohlberg has stated that the dilemmas measure moral judgment best in a personal interview situation, he has approved the use of four dilemmas in written form as an adequate measure of moral judgment maturity.⁹ This procedure has also been used to obtain a measure of moral judgment maturity by other researchers.¹⁰ Inter-judge reliability for assessing moral stage has been reported at .94,¹¹

8. L. L. Thurstone and T. E. Jeffrey, Closure Flexibility Test (Form A), Chicago, The University of Chicago, (Industrial Relations Center), 1965, p. 8.

9. Ronald Mahabir, Moral Judgment and Rated School Behavior, Unpublished Master's Thesis, McGill University, 1973, p. 45.

10. C. Beck, E. Sullivan and N. Taylor, "Stimulating Transition to Postconventional Morality: The Pickering High School Study", in Interchange, No. 3, 1972, p. 28-37.

11. E. Turiel, "An Experimental Test of the Sequentiality of Developmental Stages in the Child's Moral Judgments", in Journal of Personality and Social Psychology, Vol. 3, No. 6, 1966, p. 611-618.

.86,¹² and .87.¹³

Kohlberg has never published his scoring manual and judges must be specially trained for the task of assessing moral stage. This research employed the services of a judge trained for the task of assessing moral reasoning by Kohlberg at Harvard University, Cambridge, U.S.A.

A stage was assigned each story according to Kohlberg's scoring guide. This stage assignment may take either a pure or a mixed form; for example, Stage 3 = pure Stage 3, Stage 3(2) = mostly Stage 3, with some Stage 2. The percentage usage by a subject of each stage is the percentage of the total twelve points that was assigned to that stage. For example, if Stage Two reasoning by a subject is assigned three of a possible twelve points, then Stage Two thinking constitutes twenty-five per cent of the subject's total thinking.

A moral maturity score (MMS), is arrived at by weighting (multiplying) each percentage usage by its stage number and summing these weighted scores. Thus a

12. Jack Arbutnot, Field-Independence and Maturity of Moral Judgment, Critical Distinctive Feature Analysis and Perceived Hours of Control, Unpublished Doctoral Dissertation, Cornell University, 1971.

13. Charles Keasey, "Social Participation as a Factor in the Moral Development of Pre-adolescents", in Developmental Psychology, Vol. 5, No. 2, 1971, p. 216-220.

subject who achieved twenty-five percent Stage Two reasoning and seventy-five percent Stage Three reasoning would be assigned a moral maturity score of 275. ($25\% \times 2$ plus $75\% \times 3$). The minimum MMS is one hundred while the maximum is six hundred. The moral maturity score, which has been used as a measure of moral maturity in other studies,¹⁴ will be used in the present research.

3. Collection of Data.

The results of the Thurstone Flexibility Test (Form A) used in this study were made available to the writer by another researcher who had recently administered the test to the grade seven students involved. The test was administered in group form in strict accordance with the instructions provided in the manual.¹⁵

The writer was given permission by the principals of the two schools involved to administer Kohlberg's moral dilemmas to thirty-five of each of the previously identified field-dependent or field-independent subjects. It was decided in consultation with the principals, that

14. C. Beck, E. Sullivan and N. Taylor, op. cit., 1972.

15. L. L. Thurstone and T. E. Jeffrey, op. cit., 1965, p. 18.

the students involved would be made available to the researcher at a mutually convenient time. They would be notified by the principals of the researcher's request to participate in the present inquiry and those who agreed to participate would meet with me at a pre-arranged time during school hours in a room set aside for that purpose.

Due to a change in organizational arrangements within the schools and the wish of some of those selected not to participate, a final group of fifty-eight (twenty-nine field-dependent and twenty-nine field-independent subjects) rather than seventy subjects was administered Kohlberg's Dilemmas Test. As was noted previously, three of the tests were unscorable and thus fifty-five of the moral maturity scores obtained were used in the statistical analysis.

The dilemmas were administered in group form in writing in a room set aside for the purpose. Testing took place in the morning in each school on successive days.

The students were told that the purpose of the stories and questions was to get at their opinions and ideas. They were encouraged to write down all the ideas or feelings that the stories brought to mind rather than giving "yes" or "no" answers. The students were

allowed one hour and a half, in each school, to complete the dilemmas and all reported that this was ample time.

4. Analysis of Data

The research hypothesis was tested in the null form by means of ANOVA with field-dependence-independence and sex as the independent variables and moral judgment maturity as the dependent variable.

The level of significance was set at $p < .05$.

CHAPTER III

PRESENTATION OF RESULTS

In this chapter, the results are presented under the following headings: (1) Review of the Problem and Hypothesis and (2) Results of Testing the Hypothesis.

1. Review of the Problem and Hypothesis.

The problem on which the present study is based is: To what extent is a person's achievement in moral judgment related to his or her level of field-dependence-independence?

With the problem thus defined and on the basis of the review of the literature, it was hypothesized that:

Field Independent subjects will achieve higher moral judgment scores than will Field Dependent subjects.

2. Results of Testing the Hypothesis.

Table I presents the means and standard deviations for the different cells in the design. The cell means with respect to sex, and regarding field-dependence-independence are graphically depicted in Figure 1. This figure shows that not only are the means for the field-independent subjects higher, as expected, but also

indicates the absence of any interaction.

Hartley's F maximum test was used to assess the assumption of homogeneity of variance. This procedure yielded a value of 1.61 ($p > .05$) suggesting that there was an acceptable homogeneity of variance amongst the groups involved in the ANOVA.

The research hypothesis was tested in its null form by ANOVA with the level of significance set at $p < .05$.

As indicated by Table II, the null hypothesis was rejected. Field-independent subjects achieved significantly higher moral judgment scores than did field-dependent subjects and so the research hypothesis was upheld.

From the uncertain nature of sex as a variable in moral development, as indicated in the review of the literature, it was deemed wise to include it as an independent variable. Table II, shows that there were no significant sex differences or interaction.

Table I.-

Mean and Standard Deviation for Field-Dependent and Field-Independent Males and Females on the Kohlberg Dilemma Test.

	F-DM	F-DF	F-IM	F-If
Mean	253.77	263.33	271.18	282.18
S. D.	25.61	23.12	20.19	25.12
N	22	6	11	16

Table II.-

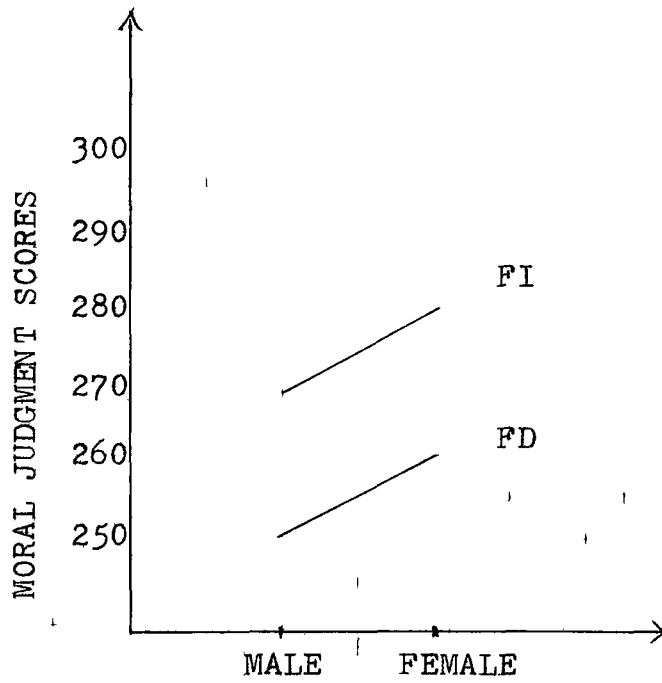
ANOVA for Field-Dependent and
Field-Independent Males and
Females on Kohlberg's Moral
Dilemma Test.

Source	df	SS	MS	F
A(Sex)	1	1228.55	1228.55	1.94
B(F-D-I)	1	3722.66	3722.66	5.89*
AB	1	11.72	11.72	0.02
R	51	32235.27	632.06	

* significant at the 5% level.

FIGURE I

GRAPHIC PRESENTATION OF CELL MEANS OF MORAL JUDGMENT SCORES



CHAPTER IV

DISCUSSION OF THE RESULTS

The present study has examined the relationship between field-dependence-independence cognitive style and maturity of moral judgment. As reported in the previous chapter, field-independent subjects achieved significantly higher ($p < .05$) moral judgment scores than did field-dependent subjects.

Those results lend support to the contention that field-dependence-independence interacts with Kohlberg's progressive equilibration construct of moral stage transition. That is, the superior articulation characteristic of the field-independent subjects' perceptions in the social environment tends to facilitate the incidence of cognitive conflict which stimulates greater accommodation or reorganization toward a more equilibrated moral stage. That ability to articulate or "disembed", characteristic of the field-independent cognitive style, seems analogous to the ability to "decenter" which has been associated with higher moral judgment.

Now, Kohlberg's moral stages involve a shifting or re-focussing of moral judgment from an egocentric morality through a morality influenced by the more

immediate social environment, to a universal morality. It is suggested that the results of the current study make it possible to infer that the ability to dis-embed characteristic of the field-independent cognitive style is clearly an important determining factor operating in the inter-action between field-dependence-independence and moral development.

The results are congruent with the findings of other researchers, such as Schleifer and Douglas,¹ and Caring.² These studies employed Piagetian moral stages in their research. The present study differs from those reported above in that Kohlberg's moral stages are employed in the research.

The present study brings into question the conclusion of Arbuthnot's study which reported no significant correlation between field-dependence-independence and moral

1. Michael Schleifer and Virginia I. Douglas, "Moral Judgments, Behaviour, and Cognitive Style in Young Children", in Canadian Journal of Behavioural Science, Vol. 5(2), 1973, p. 133-144.

2. Lillian Caring, The Relation of Cognitive Style, Sex and Intelligence to Moral Judgment in Children. Unpublished Doctoral Dissertation, New York University, 1970.

maturity measured by Kohlberg's moral stages.³ Arbuthnot suggested that the reason his hypothesis was not confirmed was in part because the instrument he employed for identifying field-dependent-independent subject, the RFT, may not have discriminated from amongst his subjects (N=110), those at the upper levels of field-dependence-independence.⁴ Arbuthnot's explaining away of his findings gains some support in the present study which employed a larger number of subjects (N=361) from which to establish field-dependent and field-independent groups. Accordingly, the larger sample would undoubtedly provide subjects at the more extreme ends of the field-dependence-independence continuum.

It is suggested that future replications of the present research employ varied age groups in order to provide additional information on the relationship between field-dependence-independence and moral judgment maturity established in the present study. A limiting factor of the present research is the relatively homogeneous age

3. Jack Arbuthnot, Field Independence and Maturity of Moral Judgment, Critical Distinctive Feature Analysis and Perceived Focus of Control. Unpublished Doctoral Thesis, Cornell University, 1971.

4. -----, op. cit., 1971, p. 64-65.

group (mean age 12.3 years) employed as subjects. These subjects are at an age considered a transition time for movement from Kohlberg's pre-conventional to conventional stages.⁵ The choice of the age group, fifteen to nineteen, is suggested in that this age range is considered the transition time for movement from Kohlberg's conventional to post-conventional moral stages⁶ and should provide a fruitful source of comparison with the age group employed in the present study.

5. Lawrence Kohlberg and Elliot Turiel, "Moral Development and Moral Education" in S. Lesser (ed.), Psychology and Educational Practice, Glenview, Illinois Scott, Foresman and Company, 1971, p. 448.

6. Ibid., p. 448-449.

SUMMARY AND CONCLUSIONS

The present study presented an investigation of the extent to which moral development is related to field-dependence-independence.

It was hypothesized that field-independent subjects would achieve significantly higher moral judgment scores than would field dependent subjects.

The research sample consisted of 361 students (191 boys and 170 girls), who composed the seventh grade population of two adjacent junior high schools under the jurisdiction of the Ottawa Separate School Board.

A modified version of Kohlberg's Moral Dilemmas Test was used as a measure of moral judgment level while field-dependence-independence was measured by means of Thurstone's Closure Flexibility Test (Form A).

Analysis of variance (ANOVA) was employed as a statistical test of significance at the .05 level. The results confirmed the research hypothesis.

The results tended to support the contention presented in the theoretical rationale of this study that field-dependence-independence is a determining factor in moral development in that it interacts with "progressive equilibration" which is Kohlberg's construct of moral stage transition.

Lawrence Kohlberg's theory of moral development is receiving considerable attention from educators today as they seek to develop an approach to moral education which is acceptable in a pluralistic society. Programs are being developed in our schools which attempt to stimulate progress through Kohlberg's moral stages. As the results of the present study indicate, education would do well to consider cognitive style as an important variable in the development of moral maturity as Kohlberg views it. It may be that, particularly with the younger children, schools should be doing more to encourage autonomous functioning on the part of students. This kind of fostering of a more field-independent cognitive style should be given consideration as a necessary aspect of the total moral education program within a school.

BIBLIOGRAPHY

Kohlberg, Lawrence, "From is to Ought: How to Commit the Naturalistic Fallacy and Get Away with It in the Study of Moral Development", in T. Mischel (ed.), Cognitive Development and Epistemology, New York, Academic Press, 1971, p. 151-235.

Kohlberg deals with the genetic epistemology of moral psychology, universals and relativity in moral development, the cognitive-developmental theory of moralization, and a review of the claim that his stages form an order of moral adequacy. Kohlberg also reviews his claim for the principle of justice as the highest good; endeavors to move his theory from "is" to "ought"; and outlines the steps from thought to action.

-----, "Stage and Sequence: the Cognitive-Developmental Approach to Socialization" in D. Goslin (ed.), Handbook of Socialization Theory and Research, New York, Rand, McNally and Company, 1969, p. 347-480.

A very comprehensive statement of Kohlberg's cognitive-developmental theory or moralization. Kohlberg's rationale for postulating that moral development has a strong cognitive base is presented. Links with Piaget's logical stages and with general intelligence are explored. The relationship between cognitive and affective aspects of morality is discussed. Moral stages are presented as a series of successive role-taking "opportunities" and the opportunities for role playing in various social environments are discussed.

-----, "Stages of Moral Development as a Basis for Education", in C. Beck, B. Crittenden, and E. Sullivan (eds.), Moral Education: Interdisciplinary Approaches, Toronto, University of Toronto Press, 1971, p. 23-92.

A comprehensive account of Kohlberg's moral judgment stages. Evidence for the age-developmental universal, sequential and hierarchic nature of the stages is presented. Kohlberg's argument for the primacy of justice over all other moral considerations is included. The cognitive-developmental theory of moral development is related to a conception of moral education.

James R. Rest, "The Cognitive-Developmental Approach to Morality: The State of the Art" in Counseling and Values, Vol. 18, No. 2, Winter, 1974, p. 64-67.

This article is a current and comprehensive summary of research based on Kohlberg's cognitive-developmental moral theory. The author outlines the strengths and weaknesses of the theory as they have come to light through research. Unanswered questions raised by moral development research are posed and suggested new directions for moral development research are given.

Elliot Turiel, "Developmental Processes in the Child's Moral Thinking" in P. Mussen, J. Langer and M. Covington (eds.), Trends and Issues in Developmental Psychology, New York, Holt, Rinehart and Winston, 1969, p. 93-133.

This article reviews experimental investigations of the invariant and hierarchical organization of Kohlberg's moral stages. Also outlined is the "progressive equilibration" construct which Kohlberg and his colleagues have proposed as the explanatory model for transition from stage to stage. The implications of moral stages for social change are outlined and discussed.

Witkin, H. A., H. B. Lewis, M. Hertzman, K. Machover, P. S. Meissner, and S. Wapner, Personality Through Perception, New York, Harper, 1954, xxvi-571p.

It is in this first major work by Witkin and his colleagues that the origins and features of the field-dependence-independence construct are presented. The results of a large and thorough research project, in which the way an individual functions cognitively is related to personality variables and adaptation patterns, are presented.

-----, R. B. Dyke, H. F. Faterson, D. R. Goodenough, and S. A. Karp, Psychological Differentiation, New York, Wiley, 1962, v-418p.

This is the second major publication by Witkin and his colleagues. The findings of the first work are confirmed and extended and the field-dependence-independence construct is placed within the theoretical context of psychological differentiation.

-----, D. R. Goodenough, and S. A. Karp, "Stability of Cognitive Style from Childhood to Young Adulthood" in Journal of Personality and Social Psychology, 1967, p 291-300.

A report on a study wherein development of differentiation, as reflected in cognitive style, was followed longitudinally in two groups: one from eight to thirteen years and the other from ten to twenty-four years. It was found that there exists a progression in extent of field independence up to age seventeen with little change from seventeen to twenty-four. Results also suggested that children show marked relative stability in extent of field dependence, that is, that each individual as he grows maintains his relative position among his peers. It was also indicated that, at each age, individual consistency in performance across tests of field dependence is found.

-----, "Cognitive Development and the Growth of Personality" in Acta Psychologica, Vol. 18, 1961, p. 245-257

A paper presented at a symposium on Personality and Perception in which cognitive functioning is related to the child's general development. It is suggested that differences in mode of perception might reflect differences in pace of psychological growth. This article outlines Witkin's position that field-dependence-independence is an aspect of psychological growth independent of general intelligence. Early experiences relating to degree of field-dependence are also reviewed.

-----, The Role of Cognitive Style in Academic Performance and in Teacher-Student Relations, (Research Bulletin) Princeton, Educational Testing Service, February, 1973, 58p.

A current, comprehensive statement on the nature of field-dependence-independence cognitive style. Cognitive style, as a factor in the schools, is discussed and a review of studies on the relationship between cognitive style and learning is presented. A well reasoned argument for a cognitive style approach to educational problems is included.

APPENDIX I

MODIFIED KOHLBERG MORAL

DILEMMA TEST

STORY I

In Europe, a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to make. He paid \$200.00 for the radium and charged \$2,000.00 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about \$1,000.00 which is half of what it cost. He told the druggist that his wife was dying, and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug and I'm going to make money from it". So Heinz got desperate and broke into the man's store to steal the drug for his wife.

QUESTIONS

1. Should Heinz have done that? Was it actually wrong or right? Why?
2. Is it a husband's duty to steal the drug for his wife if he can get it no other way? Would a good husband do it?
3. Did the druggist have the right to charge that much when there was no law actually setting a limit to the price? Why?

ANSWER THE NEXT TWO QUESTIONS ONLY IF YOU THINK HE SHOULD STEAL THE DRUG.

- 4a. If the husband does not feel very close or affectionate to his wife, should he still steal the drug?
- 4b. Suppose it wasn't Heinz's wife who was dying of cancer but it was Heinz's best friend. His friend didn't have any money and there was no one in his family willing to steal the drug. Should Heinz steal the drug for his friend in that case? Why?

ANSWER THE NEXT TWO QUESTIONS ONLY IF YOU THINK HEINZ SHOULD NOT STEAL THE DRUG.

- 5a. Would you steal the drug to save your wife's life?
- 5b. If you were dying of cancer but were strong enough, would you steal the drug to save your own life?

ALL ANSWER

6. Heinz broke in the store and stole the drug and gave it to his wife. He was caught and brought before the judge. Should the judge send Heinz to jail for stealing or should he let him go free? Why?

STORY II

While all this was happening, Heinz was in jail for breaking in and trying to steal the medicine. He had been sentenced for ten years. But after a couple of years he escaped from the prison and went to live in another part of the country under a new name. He saved money and slowly built up a big factory. He gave his workers the highest wages and used most of his profits to build a hospital for work in curing cancer. Twenty years had passed when a tailor recognized the factory owner as being Heinz, the escaped convict whom the police had been looking for back in his home town.

QUESTIONS

16. Should the tailor report Heinz to the police? Would it be right or wrong to keep it quiet? Why?
17. Is it a citizen's duty to report Heinz? Would a good citizen? Why?
18. If Heinz was a good friend of the tailor, would that make a difference? Why?
19. Should Heinz be sent back to jail by the judge? Why?

STORY III

Joe is a 14-year-old boy who wanted to go to camp very much. His father promised him he could go if he saved up the money for it himself. So Joe worked hard at his paper route and saved up the \$40.00 it cost to go to camp and a little more besides. But just before camp was going to start, his father changed his mind. Some of his friends decided to go on a special fishing trip, and Joe's father was short of the money it would cost. So he told Joe to give him the money he had saved from the paper route. Joe didn't want to give up going to camp, so he thought of refusing to give his father the money.

QUESTIONS

20. Should Joe refuse to give his father the money? Why?
21. Does his father have the right to tell Joe to give him the money? Why?
22. Does giving the money have anything to do with being a good son? Why?
23. Which is worse, a father breaking his promise to his son or a son breaking a promise to his father? Why?
24. Why should a promise be kept?

STORY IV

Joe had an older brother called Alex. Several years later, the grown up brothers had gotten into serious trouble. They were secretly leaving town in a hurry and needed money. Alex the older one, broke into a store and stole \$500.00. Joe, the younger one, went to a retired old man who was known to help people in town. Joe told the man that he was very sick and he needed \$500.00 to pay for the operation. Really, he wasn't sick at all, and he had no intention of paying the man back. Although the man didn't know Joe very well, he loaned him the money. So Joe and Alex skipped town, each with \$500.00.

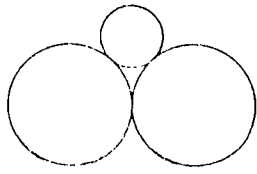
QUESTIONS

25. If you had to say who did worse, would you say Alex did worse to break into the store and steal the \$500.00, or Joe did worse to borrow the \$500.00 with no intention of paying it back?
26. Would you feel like a worse person stealing like Alex or cheating like Joe? Why?
27. Why shouldn't someone steal from a store anyhow?
28. Who should feel worse, the store owner who was robbed or the man who was cheated out of the loan? Why?
29. Which should the law be more harsh or strong against, stealing like Alex or cheating like Joe? Why?

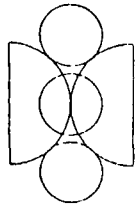
APPENDIX 2

THURSTONE'S CLOSURE FLEXIBILITY TEST

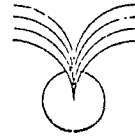
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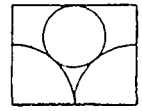
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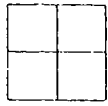
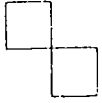
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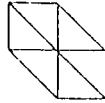
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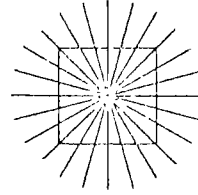
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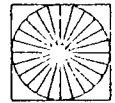
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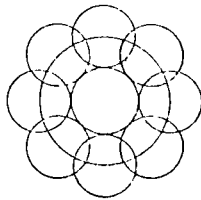
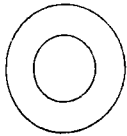
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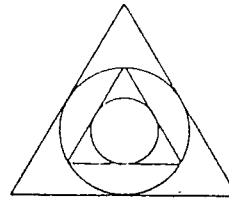
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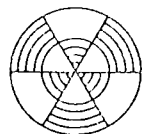
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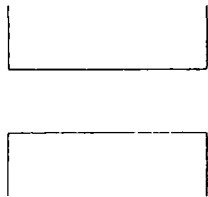
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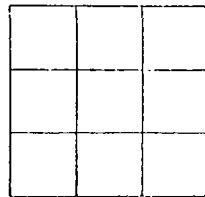
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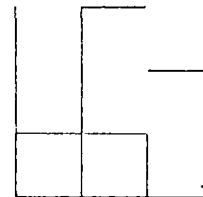
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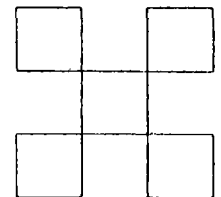
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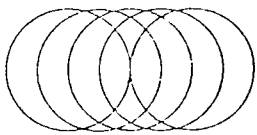
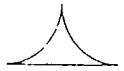
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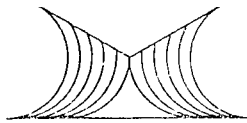
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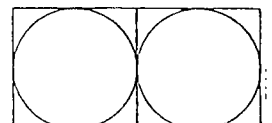
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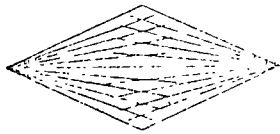
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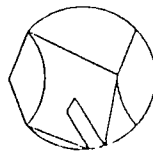
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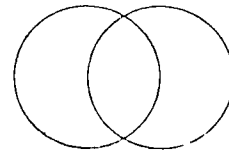
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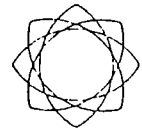
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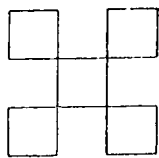
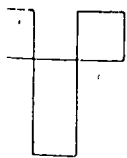
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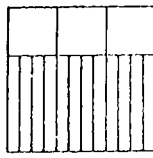
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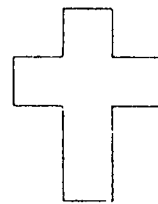
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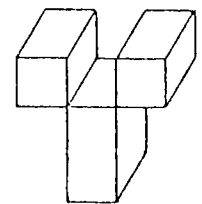
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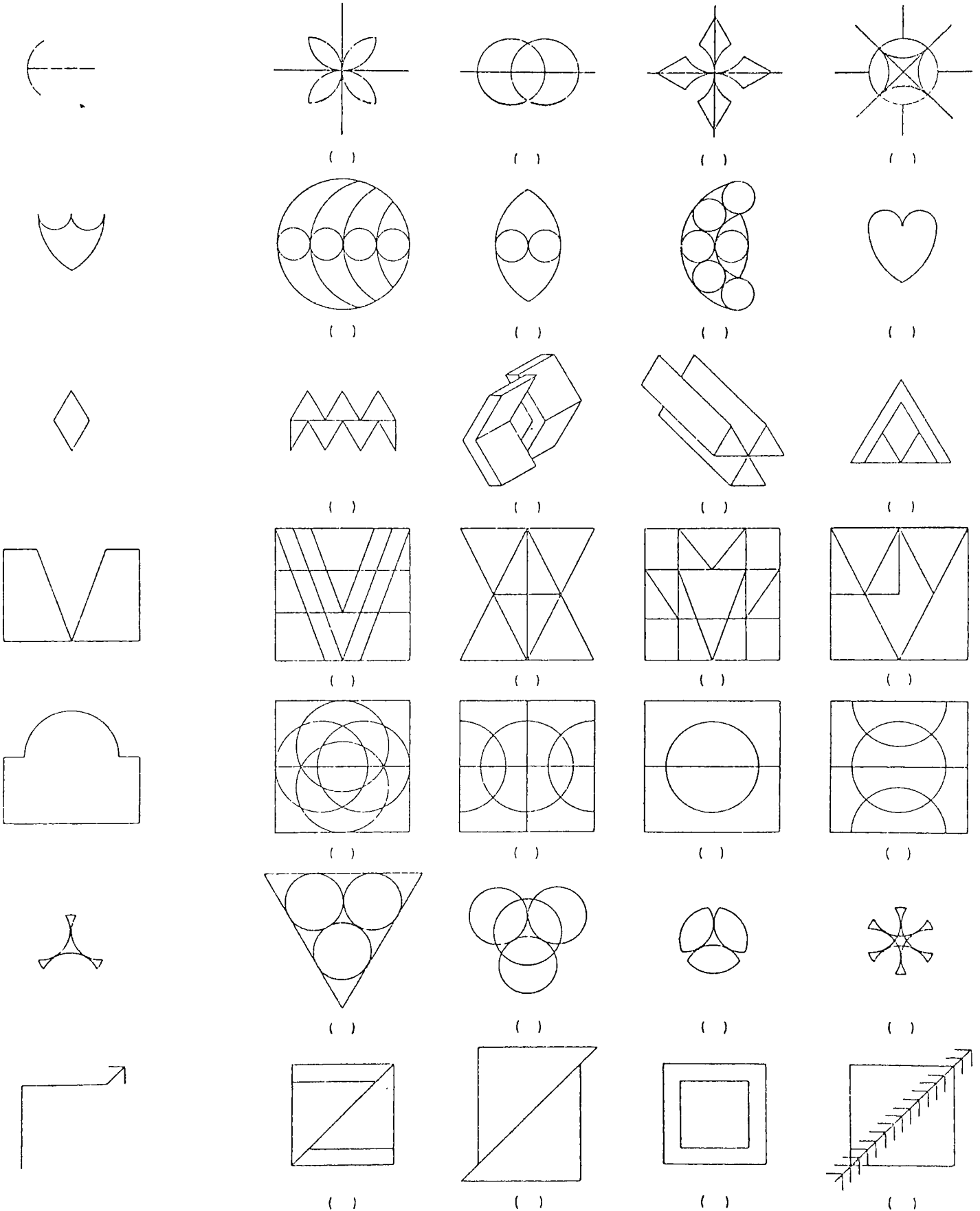


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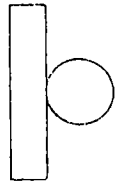
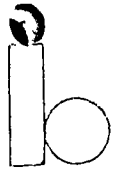


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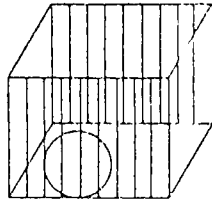
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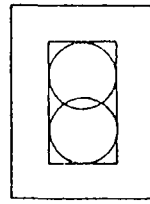
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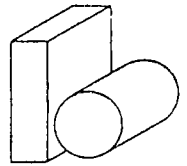
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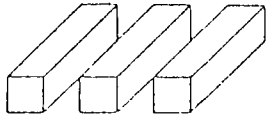
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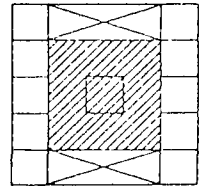
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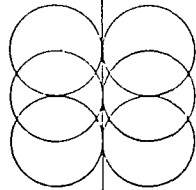
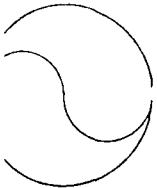
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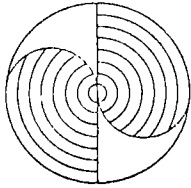
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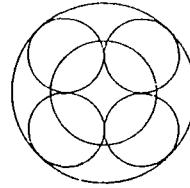
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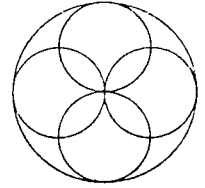
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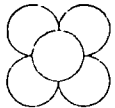
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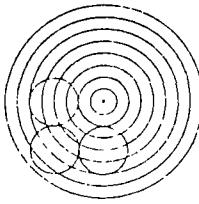
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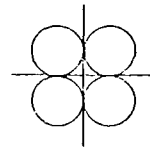
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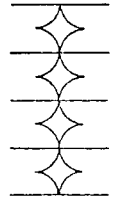
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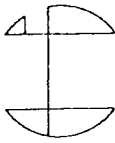
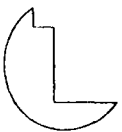
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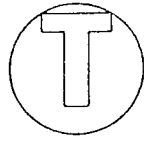
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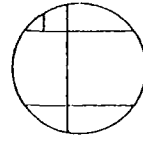
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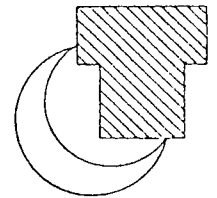
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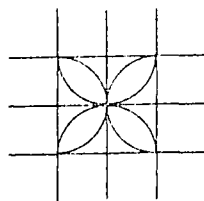
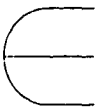
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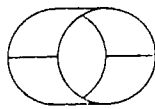
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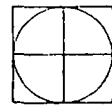
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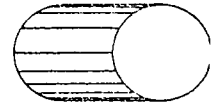
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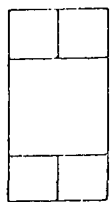
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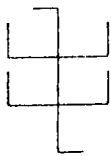
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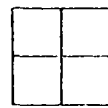
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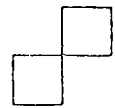
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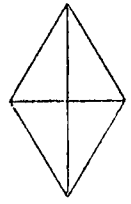
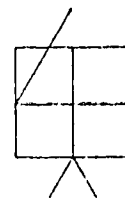
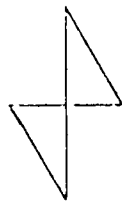
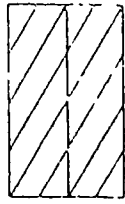
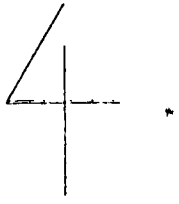
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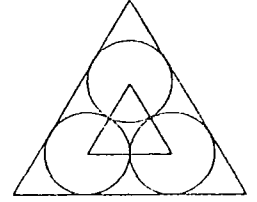
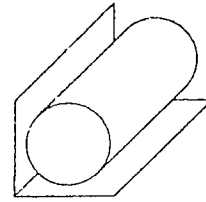
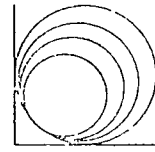
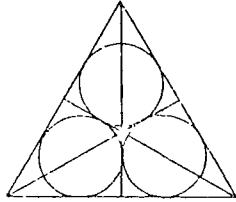
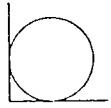


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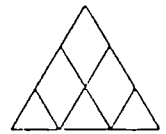
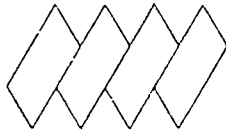


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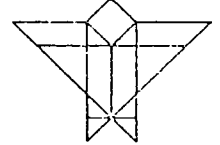
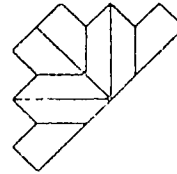
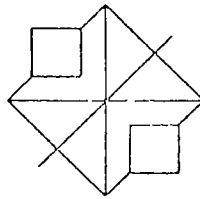
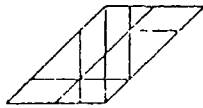


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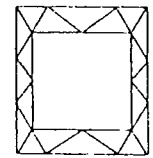
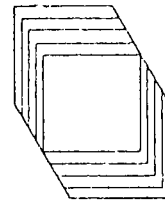
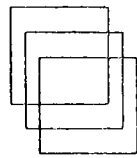
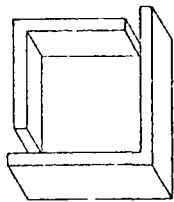
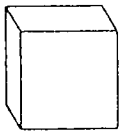


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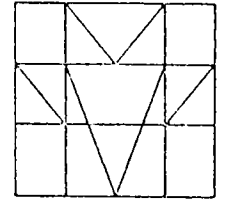
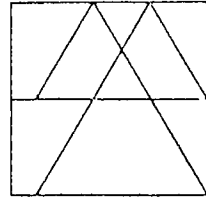
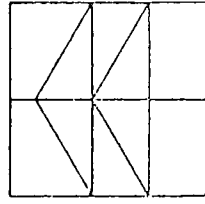
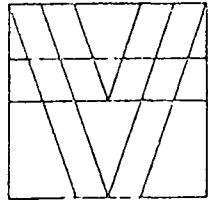
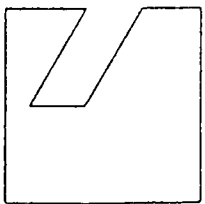


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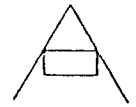
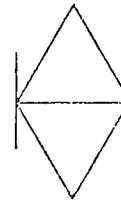
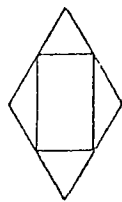
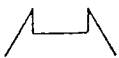


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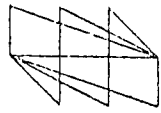


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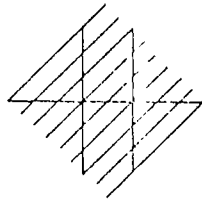
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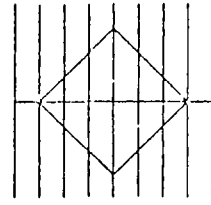
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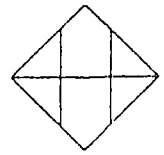
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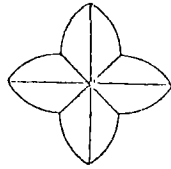
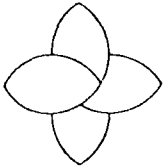
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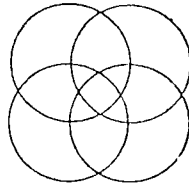
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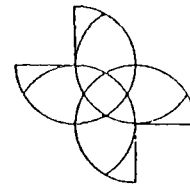
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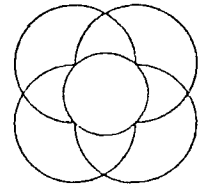
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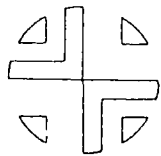
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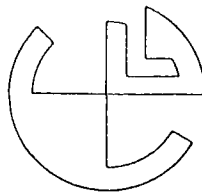
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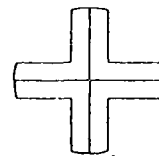
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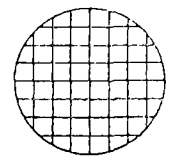
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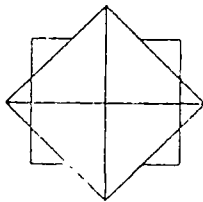
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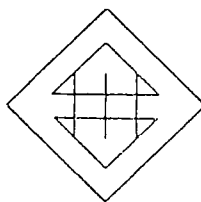
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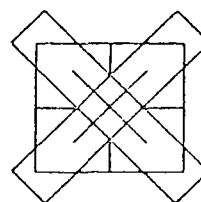
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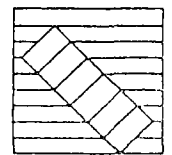
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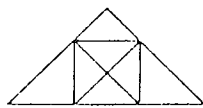
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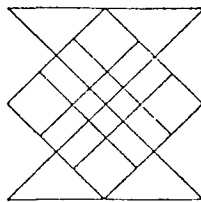
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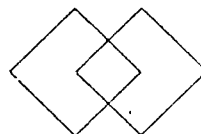
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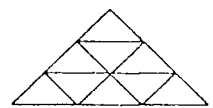
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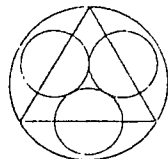
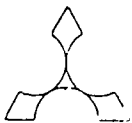
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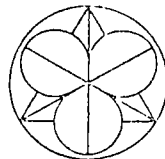
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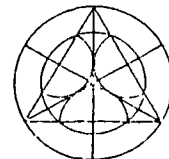
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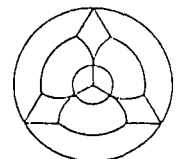
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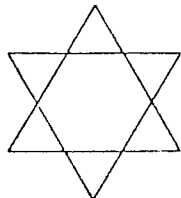
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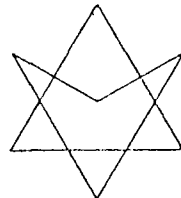
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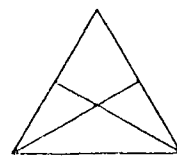
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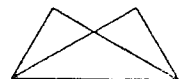
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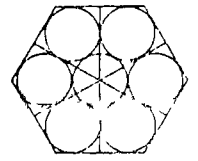
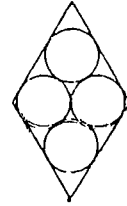
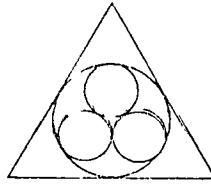
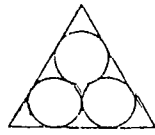


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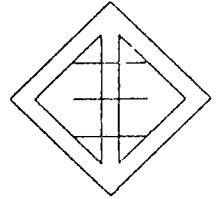
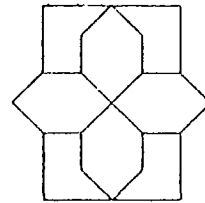
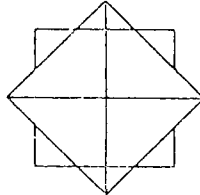
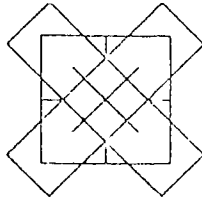


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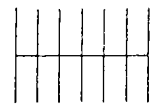
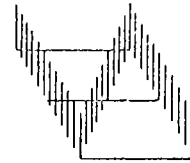
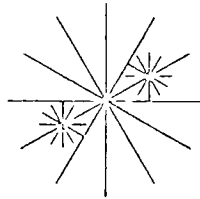
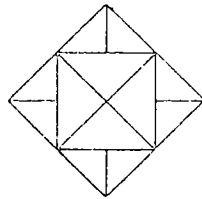


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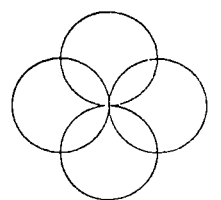
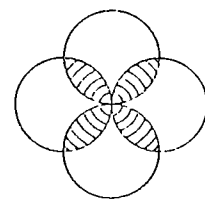
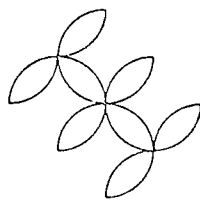
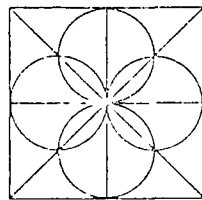
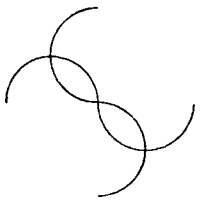


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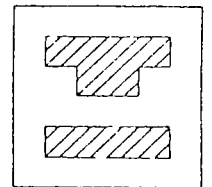
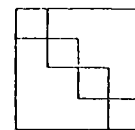
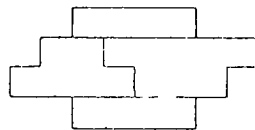
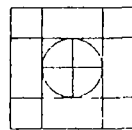
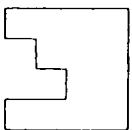


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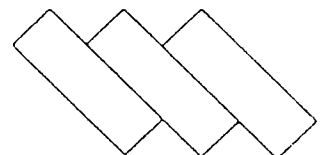
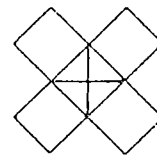
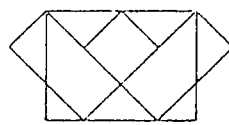
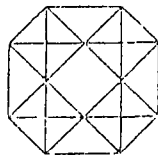
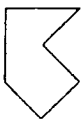


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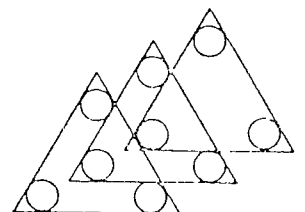
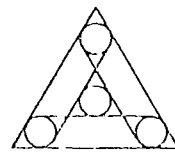
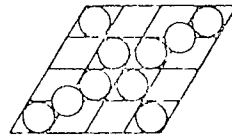
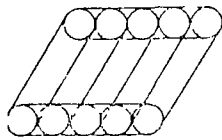
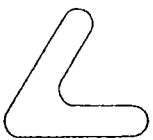


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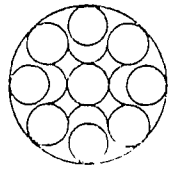
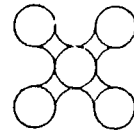
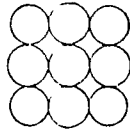
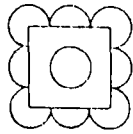
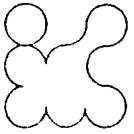
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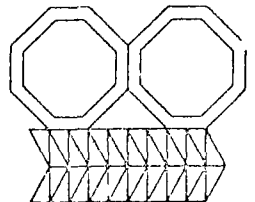
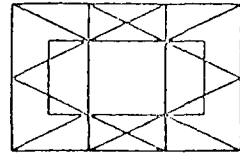
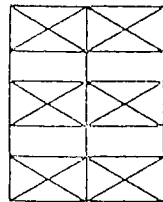
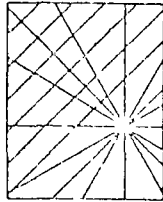
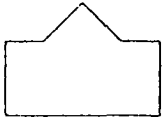


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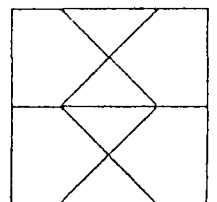
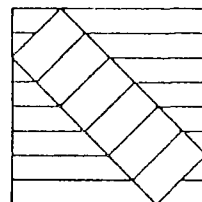
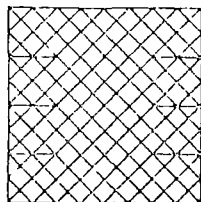
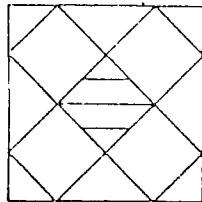
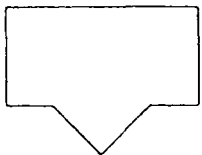


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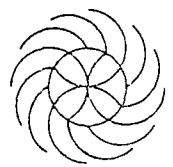
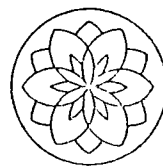
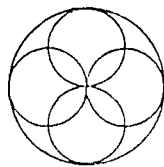


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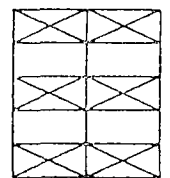
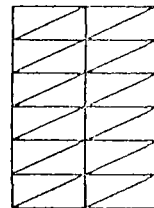
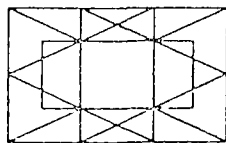
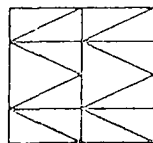
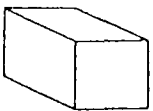


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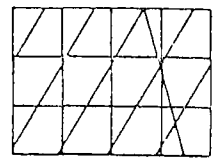
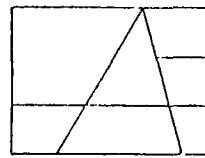
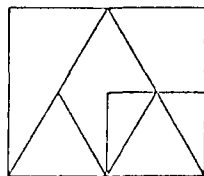
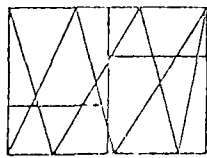
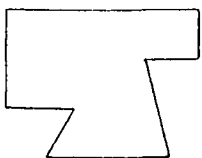


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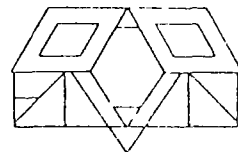
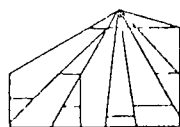
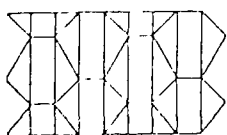
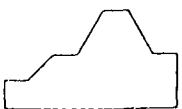


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APPENDIX 3

RAW DATA OF SCORES OBTAINED ON KOHLBERG'S
MORAL DILEMMA TEST AND THURSTONE'S CFT
(FORM A) FOR FIELD-DEPENDENT AND FIELD-
INDEPENDENT SUBJECTS BY AGE AND SEX

SCORES ON KOHLBERG'S MORAL DILEMMAS TEST AND THURSTONE'S
CFT (FORM A) FOR FIELD-DEPENDENT SUBJECTS BY AGE AND SEX

	<u>Sex</u>	<u>Age</u>	<u>CFT</u> <u>Raw Score</u>	<u>CFT</u> <u>Stand. Score</u>	<u>MMS</u>
1	M	12	18	36	275
2	M	14	18	36	275
3	M	12	19	36	250
4	M	13	24	37	222
5	M	13	26	39	225
6	F	14	5	32	283
7	M	13	15	36	317
8	M	13	11	34	250
9	M	13	0	31	258
10	M	12	24	37	267
11	M	13	25	39	258
12	M	12	22	37	267
13	F	14	4	31	275
14	M	12	18	36	258
15	F	14	26	39	222
16	F	12	18	36	283
17	M	11	17	36	275
18	M	12	26	39	225
19	M	12	22	37	242
20	F	12	21	37	242
21	M	12	24	37	267
22	M	13	12	34	233
23	M	12	20	37	250
24	M	13	22	37	277
25	M	13	22	37	275
26	M	14	13	34	200
27	F	13	24	37	275
28	M	14	19	36	217

SCORES ON KOHLBERG'S MORAL DILEMMA TEST AND THURSTONE'S
CFT (FORM A) FOR FIELD-INDEPENDENT SUBJECTS BY AGE AND SEX

	<u>Sex</u>	<u>Age</u>	<u>CFT Raw Score</u>	<u>CFT Stand. Score</u>	<u>MMS</u>
1	F	12	70	53	300
2	F	12	78	55	283
3	M	12	76	55	283
4	M	12	80	57	225
5	M	12	89	58	267
6	F	13	93	60	277
7	F	12	76	55	283
8	F	12	86	58	250
9	F	11	70	53	267
10	F	12	68	52	308
11	F	12	68	52	291
12	F	12	68	52	283
13	F	13	73	53	325
14	M	11	104	63	292
15	M	12	76	55	275
16	F	12	72	53	217
17	M	13	89	58	283
18	F	12	92	60	292
19	M	13	73	53	250
20	F	12	69	52	300
21	M	13	86	58	283
22	M	12	93	60	292
23	F	12	99	61	308
24	F	12	76	55	283
25	M	11	85	58	283
26	M	12	69	52	250
27	F	12	74	53	258

APPENDIX 4

ABSTRACT OF

An Empirical Investigation of the Relationship Between Moral Judgment and Field-Dependence- Independence

The present study explores the relationship between two theories: first, Kohlberg's cognitive-developmental stage theory of moral development, and second, the theory of psychological differentiation postulated by Witkin and his associates. The central purpose of the study was to investigate the relationship between moral judgment maturity and field-dependence-independence.

It was hypothesized that field-independent subjects would achieve significantly higher moral judgment scores than would field-dependent subjects.

The research sample included 361 students who comprised the seventh grade population of two adjacent junior high schools.

All 361 subjects were given Thurstone's Closure Flexibility Test (Form A) in group form in order to establish their relative position on the field-dependence continuum. For statistical computation purposes, the bottom 30% and the top 30% were respectively classified as being field-dependent and field-independent. From these extremes of field-dependence a group of fifty-eight

subjects divided evenly into field-dependent and field-independent groups, were selected and administered a modified version of Kohlberg's Moral Dilemma Test. From the results of this test a Moral Maturity Score for each subject was obtained.

The results obtained from an analysis of variance (ANOVA) at the .05 level of significance confirmed the research hypothesis.

It was suggested, in conclusion, that future replications of the present study employ varied age groups in order to provide additional information on the relationship between moral maturity and field-dependence-independence.