

THE RELATIONSHIPS BETWEEN LOCUS OF CONTROL ORIENTATION  
AND THE INTELLECTUAL/ACADEMIC POTENTIAL OF  
YOUNG CHILDREN

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## CHAPTER I

### INTRODUCTION

Social learning theorists have derived a concept of internal-external control reinforcement that is based on the specific idea that the potential for any behavior is a function of an individual's expectancy related to the value of internal and external reinforcements. The selected behavior will secure the reinforcement, as well as the value of that given reinforcement for that individual (Rotter, 1975). This learned expectancy begins developing in childhood. Studies have evidenced children as being internally or externally motivated (Joe, 1971; Lefcourt, 1972; Phares, 1968).

If children are externally motivated, they have learned that as a general rule they do not have control over the events in their lives. The converse is true for children who are internally motivated; they perceive positive or negative events as being a consequence of their own actions; therefore, the events are under personal control. What have these two groups of children experienced (learned) in their lives that bring about these vast

differences? Which skills do some children possess that have been learned that bring about the development of autonomy (internal control) while other children experience shame and doubt (external control)? What strength does the internally motivated child possess that aids the child in taking the responsibility for outcomes? These questions have been examined by researchers (Rotter, 1966; Lefcourt, 1972; Seligman, 1975) and given theoretical support by Erik Erikson in his analysis of the psychosocial developmental stage of autonomy versus shame and doubt. Alfred Adler (1979) carried this concept into adulthood in an expressed concern for human beings being more effective in their own world through his theory of personality termed "individual psychology." Adler felt that a person naturally strives for growth and perfection (coined "striving for superiority"), but that feelings of inferiority tend to set the style of life, or attitude one has, by the age of 4 or 5 years (Adler, 1979). However, the questions concerning why some children have an internal locus of control orientation while others have an external locus of control orientation need to be examined.

Another theorist who has added evidence to the concept of control one has on one's life leading to feelings of mastery or helplessness is Martin Seligman. Seligman (1975) found the following:

Helplessness is the psychological state that frequently results when events are uncontrollable. Three types of disruption are caused by uncontrollability in the laboratory: the motivation to respond is sapped, the ability to perceive success is undermined, and emotionality is heightened.  
(p. 44)

In turn, when an individual is able, through skill or capability, to predict events occurring in a given situation, that person becomes more accurate in perceiving that particular situation.

Furthermore, Mandler (1966) points out that anxiety is a factor that results from individuals believing in their own lack of control in their environment. "Whenever the organism is not able to draw upon some behavior or act that controls his environment, that is, whenever he is in a condition of helplessness, unable to control stimulation or environmental input in general, he will be in a state of anxiety" (Mandler, 1966, p. 363).

Lefcourt (1966) concluded from his review of internal versus external control of reinforcement that the internally controlled child "acts in a more problem-solving

direction despite frustration, wasting less time on guilty rumination and self-accusatory gestures that detract from problem-solving efforts" (p. 217). Crandall, Preston, and Rabson (1960) found that "high achieving children were less dependent on adults than were children who displayed fewer achievement efforts" (p. 246). Consequently, Rotter (1966) hypothesized that internally controlled children would exhibit more overt striving for achievement than would externally controlled children. In the Coleman Report (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966), it is stated that "a pupil attitude factor, which appears to have a stronger relationship to achievement than do all the school factors together, is the extent to which an individual feels that he has some control over his own destiny" (p. 23).

Studies are now being done to identify characteristics of internally controlled individuals and these characteristics that foster their learning. This observation has been reflected by higher achievement test scores and academic grades. Perhaps in finding answers to these locus of control orientation questions, people's lives relating to achievements, social living, and personal attitudes may be improved.

### Purposes of the Study

The purpose of this study is to measure a child's locus of control orientation and determine if a significant relationship exists between this orientation of internal or external control and certain components of achievement. The specific purposes of the study are to examine the following factors:

1. To determine the locus of control orientation of children as measured by performance on the Children's Embedded Figures Test (CEFT).
2. To determine the perceptual motor I. Q. of the children as measured by the Vane Kindergarten Test.
3. To determine the vocabulary I. Q. of the children as measured by the Vane Kindergarten Test.
4. To determine the draw-a-person I. Q. of the children as measured by the Vane Kindergarten Test.
5. To determine the full intelligence quotient of the children as measured by the Vane Kindergarten Test.

### Hypotheses

It is hypothesized that there will be no significant relationship between the following:

1. The locus of control orientation as measured by the Children's Embedded Figures Test and the perceptual

motor I. Q. of the children as measured by the Vane Kindergarten Test.

2. The locus of control orientation as measured by the Children's Embedded Figures Test and the vocabulary I. Q. of the children as measured by the Vane Kindergarten Test.

3. The locus of control orientation as measured by the Children's Embedded Figures Test and the draw-a-person I. Q. of the children as measured by the Vane Kindergarten Test.

4. The locus of control orientation as measured by the Children's Embedded Figures Test and the intelligence quotient of the children as measured by the Vane Kindergarten Test.

#### Definitions

The following definitions are presented to aid the reader:

Locus of control: Rotter (1966) constructed the concept of internal-external locus of control of reinforcement from his social learning theory. The concept refers to the degree a person thinks that reinforcements are contingent upon individual behavior. Internal control indicates those who think that reinforcements are under

their own control due to their own particular skills, attributes, or capacities. External control indicates those who believe that reinforcements are not under their own control, but rather are controlled by chance, luck, or some other powerful individual.

Field dependence/independence: In the Children's Embedded Figures Test, a child's perceptual style is defined as "field-dependence" or "field-independence." In the field-independence style of perceiving, the child is able to differentiate parts of the field as being separate from the overall organized field. In the field-dependence style of perception, the child is dominated by the overall organization of the field, and the parts are perceived as being fused together with little or no differentiation. Though the Children's Embedded Figures Test was originally devised as a measure of perceptual field dependence/independence, associations have been made between it and social dependency behaviors (Witkin, Lewis, Hertzman, Machover, Meissner, & Wapner, 1954). Consequently, field-dependence would refer to the externally controlled child, and field-independence would indicate the internally controlled child.

## CHAPTER II

### REVIEW OF LITERATURE

The literature reflects limited research on the locus of control orientation of young children. Research studies specific to preschool children were nonexistent until the 1970s. Therefore, this review of literature will focus on studies pertinent to the areas of (a) psycho/social development, (b) locus of control, (c) task achievement, and (d) intelligence quotient.

#### Psycho/Social Development

Erik Erikson's (1963) theory of Psychosocial Development points to the fact that basic attitudes pervade the conscious and the unconscious. Basic conflicts experienced during any of the eight ages can lead to hostile or benign expectations and attitudes. It is during the second stage of life (coined "autonomy versus shame and doubt") that the child begins to learn what its obligations and privileges are as well as the limitations. As the child strives for new experiences, the demand for self-control as well as the acceptance of control from others begins to develop. This ability to experience

oneself as separate from one's environment is autonomy. . Shame refers to the feeling that one is completely exposed to others, thus being self-conscious. The child who experiences shame and doubt wishes to be left alone by the world. Even so, the child can be encouraged, through experiences that require the autonomy of free choice, to eventually develop the strength to stand on its own two feet. However, Erikson (1963) stated that if the child is "denied the gradual and well-guided experience of the autonomy of free choice (or if, indeed, weakened by an initial loss of trust) the child will turn against himself all his urge to discriminate and to manipulate" (p. 252).

The virtue of "will" develops during this stage of life also. This refers to the increasing strength to make choices, to decide, to exercise self-control, and the ability to apply oneself to a task. However, if outer control is too rigid, the child will begin to believe that it has no will or power over self at all. This would indicate an external locus of control orientation. Indeed, Erikson (1963) stated that "from a sense of self-control without loss of self-esteem comes a lasting sense of good will and pride; from a sense of loss of self-control and of foreign over-control comes a lasting

propensity for doubt and shame" (p. 254). This "battle for autonomy" is especially significant for the child of 2 to 3 years of age since this is usually the period of toilet training. It is during this anal-muscular stage (in the psychosexual scheme) that children must learn to control their own processes of elimination. Parents should be careful to avoid shaming children, as this leads to self-doubt and humiliation.

Further implications for the importance of one developing one's sense of autonomy is expressed through the psychology of Carl R. Rogers (1961). Rogers identified his "person-centered" psychology with the humanistic orientation in contemporary theories. This perspective is optimistic in the belief that every person contains within himself or herself the potentialities for healthy and creative growth. Rogers indicated that the failure to realize these potentialities is due to the constricting and distorting influence of parental training, education, and other social pressures. Each person is subject to strong influences from one's social environment. Rogers focused upon ways in which evaluations of a person by others, especially during childhood, tend to cause distancing between one's perception of self and the actual

experiences of the organism. Incongruence between self and organism causes individuals to become maladjusted, thus being unable to reach the fullest potential possible. Since evaluations of a child's behavior by others is not always positive, the child learns which actions and feelings are approved and which are disapproved. Disapproved actions and feelings tend to become excluded from the self-concept, even if they are organismically valid. The result is a self-concept that does not flow with the actual organismic experience. The child learns to tune out the genuine "self" and instead tries to be what others want the child to be. Gradually, if the child has a tendency to be externally controlled, as childhood proceeds the self-concept becomes distorted more and more due to these evaluations by others.

#### Locus of Control

In a study by Konstadt and Forman (1965), it was hypothesized that field-dependent (externally controlled) children would demonstrate a greater attentiveness to the attitudes of those around them (especially to an authority figure) and thus their performances of routine tasks would reflect the experimental interjection of

approval and disapproval to a greater degree than would the performance of the same tasks of field-independent (internally controlled) children. It was found that not only did the field-dependent subjects perform more poorly on the tasks under the disapproval conditions, but the general tendency to improve (with practice) on subsequent tasks was actually reversed when the field-dependent children received disapproval after receiving approval. Thus, these children were seriously hindered in their performance when the examiner expressed disapproval. Also, the field-dependent children gazed at the people around them more under the disapproving conditions than under the approving conditions. This implies the attention level to the task at hand tended to become interrupted. The authors interpreted the gazing tendencies of the children to be attempts to monitor their behavior in terms of external cues when the emotional climate became unpleasant. It appears that these children would need an emotionally favorable climate in order to function effectively. In contrast, the interjection of disapproval had no such effect on the field-independent children.

Reports of research by Witkin and his colleagues (Witkin, Lewis, Hertzman, Machover, Meissner, & Wapner, 1954) suggest that perceptual field-dependence may be part of a broader orientation toward life in general. On the other hand, the authors said that perceptual field-independence seems to represent a more active orientation toward life in general.

#### Task Achievement

In 1964, Crandall and Sinkeldam conducted a study with 50 school-age children. It was hypothesized that children who are achievement oriented in their social behaviors display more perceptual field-independence than do children who are less achievement oriented. The achievement variables assessed were concerned with mastery of fine motor skills (such as working with tinker toys or arts and crafts materials), time spent alone on tasks, and independent efforts toward achievement (either working alone on tasks or efforts made to learn new skills and activities). The results indicated that children who were achievement oriented in social situations displayed more perceptual field-independence than children who were less preoccupied with achievement. Children who were especially concerned with the mastery of fine motor skills,

who spent much of their time in independent achievement . efforts, and who displayed task persistence were those who also performed well on the Children's Embedded Figures Test.

### Intelligence Quotient

In relation to intelligence quotient, it has been suggested that the process required for differentiating figure-ground relations in the Children's Embedded Figures Test may also be necessary for successful completion of certain items contained in standard intelligence tests (Witkin, Lewis, Hertzman, Machover, Meissner, & Wapner, 1954). To test this proposition, the children in the Crandall and Sinkeldam (1964) study were given the Wechsler Intelligence Scale for Children, which also provided the opportunity to compare the Children's Embedded Figures Test performances with verbal versus performance I. Q. scores. Witkin et al. (1954) found that particular items of standard intelligence tests may be, at least partially, measuring perceptual field-dependence propensities. The results of the study indicate that perceptual field-independence is positively and significantly associated with competent performance

on the information, comprehension, and vocabulary subtests of the Wechsler Intelligence Scale for Children.

In another study by Goodenough and Karp (1961), also of school-age children, it was hypothesized that some intellectual and perceptual tests have a common requirement for overcoming embedding contexts, and that relationships obtained between measures of field-dependence and standard intelligence tests are based on this common factor. The children were tested for field-dependence and performance on the Wechsler Intelligence Scale for Children. The results on the study supported the hypothesis.

#### The Preschool Child

It is difficult to obtain research studies with valid test results for children younger than the preschool age. There was no measure of locus of control orientation for preschool children until 1971. At that time, the Stephens-Delys Reinforcement Contingency Interview (SDRCI) was developed for preschool children by Stephens and Delys (1973). This particular study was conducted to determine if disadvantaged children display more external expectancies than do nondisadvantaged children by preschool age. In 1964, Elizabeth K.

Starkweather developed the Starkweather Social Conformity Test for Preschool Children. This test was designed to measure conforming and nonconforming behavior by providing children with opportunities to make choices in which they can follow a model or respond freely according to their own preferences.

### Achievement

In 1960, a study of 30 nursery school-age children was conducted by Crandall, Preston, and Rabson. These children were observed in nursery school free-play and were evaluated according to the amount of achievement efforts, help-seeking from adults, emotional support-seeking from adults, and approval-seeking from adults. Also the children were observed in their homes, especially in interactions with their mothers. An evaluation of the mothers' reactions to the children's behaviors were assessed as well. It was found that high achieving children were less dependent on adults for help and emotional support. The children's behaviors were fairly consistent from the nursery school environment to the home environment. The mothers who frequently rewarded efforts toward achievement were less nurturant, but not less affectionate, to their children. Neither maternal

affection nor independence training was a predictor of the children's achievement behavior; however, direct maternal rewards of achievement efforts and approval-seeking were predictors.

### Language Assessment

There appears to be little information also in the area of locus of control orientation in respect to children's language assessments. Maria Montessorri (1967) indicated that children literally learn language by themselves, through self-motivation, in a manner and style all their own. Furthermore, children have almost no control over the kind of language they learn or how they learn that language. Children are given no choice over their original language. Montessorri stressed that words are what are used to explain experiences. Experiences determine locus of control. Therefore, it would appear that there would be a significance between children's locus of control orientation and their achievement in the area of language assessment. In the Coleman Report (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966) studies indicate that attitudes of internal-external control seem to reflect home

background experiences rather than formal school characteristics.

#### Summary

Much research needs to be done in the area of locus of control orientation. Future hopes would be that from determining different levels of psycho/social, autonomy, and intellectual development, as well as language influences and age factors, that perhaps methods could be utilized to teach parents and teachers to help children become more internally controlled. Hopefully, knowledge will be gained by studying the relationship of locus of control to these different levels of development, thus achieving a better understanding and method of helping children reach their fullest potential.

## CHAPTER III

### PROCEDURE

The testing for locus of control orientation in relation to areas of achievement by the Children's Embedded Figures Test and the Vane Kindergarten Test was administered during the month of October, 1981. Written permission was obtained from the principal of the school as well as the legal guardians of each child. A letter was provided for the principal and the parents explaining the nature and purpose of the study. Anonymity was provided for all subjects by excluding all names from the study.

#### Description of Children

The subjects for this study were 15 children from the kindergarten class of a private school in Tulsa, Oklahoma. The children were between the ages of 5 and 6 years. There were 5 boys and 10 girls. Acceptance of students into the school is not affected by race, socioeconomic status, handicapping conditions, or educational background of the parents.

The selection of subjects was based upon Rotter's (1975) suggestion that a measure of generalized reinforcement has the greatest power of prediction for behavior in new and unfamiliar situations. Since the formal school setting is not common to young children, Stipek and Weisz (1981) indicated that "a general locus of control measure should be more highly related to younger children's than to older children's achievement because younger children have had less experience in achievement situations than older children" (p. 115).

#### Description of Instruments

The Children's Embedded Figures Test is a perceptual test. Durrett and Henman (1972) collected data from 98 children between the ages of 3 years and 4 years 9 months to determine the validity of the test. They reported that the validity correlation score of the Children's Embedded Figures Test is .43. Dreyer, Nebelkopf, and Dreyer (1969) collected data from 46 children between 5 and 6 years of age to determine reliability. The children were tested and retested six months later. The test-retest Pearson correlation was .87. The child's task is to locate a previously seen figure (in a simple form) which is embedded in a complex figure. In this case, the simple

form is similar to a piece from a jigsaw puzzle. The complex figure is a drawing of something familiar which has been made into a jigsaw puzzle format. The child is asked to make an "X" (with a special stamp provided) on the correct simple form. The child's score is the number of correct choices selected. The research investigator gives the test to each child individually. The test reflects the child's individual cognitive style, psychological differentiation, and field-dependence (internal-external control orientation). What is actually tested is the ability to perceive a separate part from the total field exhibited. Children with the ability to perceive the embedded figures are believed to have a greater internal control orientation. The children who have limited ability to perceive the embedded figures demonstrate an external control orientation.

The Vane Kindergarten Test was validated (Vane, 1968) by obtaining scores from 187 children between 5 and 6 years of age. The resulting correlation score was .49. In establishing test-retest reliability Vane tested 14 children and then retested after one week. Correlations of the intelligence quotients were determined and the coefficient of correlation was .97. The test was also given to 36 kindergarten children. After six months

these children were tested again. The coefficient of correlation was .88. The test utilizes three subtests to assess the intellectual and academic potential of young children. The three subtests are defined as perceptual motor I. Q., vocabulary I. Q., and draw-a-person I. Q. The perceptual motor and draw-a-person sections of the test are given to the entire group by the investigator. The vocabulary test is given to each child individually. Behavior is noted with respect to attention, ability to follow directions, self-control, cooperation, hand dominance, and speech.

Scoring the the Vane Kindergarten Test is divided into the individual subtests. Detailed explanations of the scoring of the subtests are included in the Methodology section of this chapter, as well as the scoring of the Children's Embedded Figures Test.

### Methodology

On the day the Children's Embedded Figures Test was administered, each child was read the following instructions:

This is a test to see if you can find a figure that is hidden in a design. I'm going to show you several designs like this one (investigator shows subject sample design card). In each design will be a figure you will have to find.

For example, this figure (investigator presents sample figure card) is in the card I just showed you. Now take this stamp (which is provided) and place it on the figure in the card (investigator gives subject sample design card and turns the figure card face down). (Witkin, Oltman, Raskin, & Karp, 1971)

After giving these instructions, the child was given a "practice test," with the aid of the investigator, to insure that the child thoroughly understood the instructions for the test. The test consisted of two simple puzzle-like shapes (one being a tent shape, the other being the shape of a house) which the child was to find embedded in a series of pictures. Notes were taken for each child in regard to ease of finding the embedded figure, ability to follow directions, and attention span. Points were tallied for each correct response.

In scoring the test, the examiner gave the child a score of one point for each correct response and a zero for each incorrect response. The maximum score possible is 25 points. To interpret what the scores indicate, each score is placed against the mean score (14.13) of the group combined (Witkin, Oltman, Raskin, & Karp, 1971). Those children of the group whose scores fall into the range below the mean tend to be field-dependent (externally controlled). Those children whose scores fall

above the mean tend to be field-independent (internally controlled).

On the next day of testing, the children were given the first two parts (perceptual motor skill and draw-a-person skill) of the Vane Kindergarten Test as a group. Each child was given a Vane Kindergarten Test form. The instructions established in the Vane Kindergarten Test Manual per the administration of the instrument were processed by the investigator in the following manner: The children were requested to place their finger on the box shown on the test form. They were then asked to draw a box just like the one on the form. In all, the children were required to draw three boxes, three cross figures, and three hexagons. On the back side of the form, the children were requested to draw a picture of a person. The investigator pointed out to the children that they should draw a whole person, from head to feet. When the children were finished drawing the person, they were asked to write their full name on the paper.

The investigator followed the instructions in the Vane Kindergarten Test Manual for scoring the first two sections of the test (perceptual motor I. Q. and draw-a-person I. Q.). In scoring the perceptual motor sub-test, the drawing of the box was given from one to three

points. The boxes that had lines fairly firm, but with no attempts made for corners, were given one point. The boxes that did resemble a square in shape were given two points. Three points were awarded those boxes that had four actual angles, with the figure being equal in length on all sides. The possible total score range for this section of the test is 0-10 points. Several examples are included in the Vane Kindergarten Test Manual to serve as a guide for the investigator to follow in tallying points.

The language subtest was scored according to the specific descriptive word or words the child used in an effort to define the following: (a) fork, (b) wheel, (c) birthday, (d) gift, (e) calendar, (f) alone, (g) short, (h) jolly, (i) silence, (j) wise, and (k) straight. The range of points assigned the descriptor chosen by the child is designated as follows: a total possible score per word is 0-1 point, with the exception of two possible points for the vocabulary word "birthday." The possible total score range on the vocabulary portion of the test is 0-12 points.

The draw-a-person portion of the test has a very detailed scoring process which is based on the number of items presented in the actual drawing in order to obtain a total score. The possible total score range for this

section of the test is 0-26 points. Specific details and illustrated examples are made available in the test manual. These instructions were explicitly followed.

The scoring of the intelligence quotient is obtained by combining the three subtest scores and dividing by three. The product of this calculation is the child's full intelligence quotient. The range of intelligence quotient according to the established norms of the Vane Kindergarten Test for children from age 5.0 to 6.5 years is 0-137 points.

#### Analysis of Data

The statistical analysis of locus of control orientation as measured by the Children's Embedded Figures Test and the perceptual motor, draw-a-person, vocabulary, and intelligence quotient as measured by the Vane Kindergarten Test was achieved by the use of the Mann Whitney Test. This test utilizes the correlation coefficient as described in the Statistical Package of Social Sciences Manual. The independent variable is the locus of control orientation. The dependent variables are the perceptual motor, draw-a-person, vocabulary, and intelligence quotient. The minimal level of significance sought to reject the null hypothesis was .05.

## CHAPTER IV

### RESULTS

The sample for this study was composed of 15 children from a private school in Tulsa, Oklahoma. The children ranged from 5 to 6 years of age. There were 5 boys and 10 girls.

The purpose of the study was to determine the child's locus of control orientation in comparison with various levels of the child's academic achievement. The child's locus of control orientation was determined by the Children's Embedded Figures Test. The academic levels of achievement were obtained from the Vane Kindergarten Test. An analysis of the data and an interpretation of the statistical analysis are included in this chapter.

Table 1 presents a description of the children who participated in the study. Respondents ranged in age from 5 years-1 month to 6 years-5 months. The greatest proportion were in the age range of 5 years to 5 years-5 months (48%). Eighty-six percent of the children were right hand dominant. The sample was predominantly female (66%).

Table 1  
Description of the Children

Variable	Classification	Number	Percent
Age of Children	5.00-5.05	7	48
	5.06-5.11	4	26
	6.00-6.05	4	26
Sex of Children	Boys	5	34
	Girls	10	66
Hand Dominance	Right	13	86
	Left	2	14

Table 2 presents a description of the Children's Embedded Figures Test results. Although there was a possible maximum score of 25 points, the scores in this study ranged from 10 to 21 points. Of the 15 children represented in the study, nine (59%) were classified as being field-dependent (externally controlled) and six (41%) were classified as being field-independent (internally controlled).

Table 2  
Children's Embedded Figures Test Results

Variable	Scores*	Number	Percent
Field-dependent (external control)	9-11	3	20
	12-14	6	39
Field-independent (internal control)	15-17	4	27
	18-20	1	7
	21-23	1	7

\*Possible range of scores = 25 points

Table 3 represents the test results of the Vane Kindergarten Test. This table includes the mean and standard deviation scores for each subtest of the sample tested in this study.

When a mean score was derived for the perceptual motor I. Q. subtest, a score of 104.0 was determined with a standard deviation score of 20.3. The standardized mean score for the perceptual motor I. Q. subtest that is published in the Vane Kindergarten Test Manual is 99.9 with a standard deviation of 15.8 for this same

age group. Obviously the group of children that was tested in this study scored above the standardization sample.

The standardized mean vocabulary I. Q. score is 101.5 as compared to the group measured in this study scoring a mean of 111.9. Again, this sample of children scored above the standardized mean.

The draw-a-person I. Q. score was standardized at 101.9 with a standard deviation of 17.7. The mean score for the 15 children measured in this study was 113.3 with a standard deviation of 16.1.

The full intelligence quotient mean for the group of 15 children examined in this study was 109.7 as compared to the standardized mean of 101.1. The group of children measured consistently evidenced a higher mean score on all the subtests which would obviously strengthen the mean of their full intelligence quotient.

Table 3

Vane Kindergarten Test Results

Variable	Scores	Number	Percent	$\bar{X}$	SD
Perceptual Motor I. Q.	70-85	3	20		
	86-100	4	27		
	101-115	4	27	104.00	20.34
	116-130	2	13		
	131-145	2	13		
Vocabulary I. Q.	75-90	3	20		
	91-105	3	20		
	106-120	4	27	111.87	22.27
	121-135	2	13		
	136-150	3	20		
Draw-a-person I. Q.	86-100	3	20		
	101-115	6	40	113.33	16.05
	116-130	3	20		
	131-145	3	20		
Full Intelligence Quotient	80-95	4	27		
	96-110	3	19	109.66	17.15
	111-125	4	27		
	126-140	4	27		

The Mann Whitney Correlation Coefficient was utilized to examine the hypothesis that there is no significant relationship between the locus of control orientation and the following: (a) perceptual motor scores, (b) vocabulary scores, (c) draw-a-person scores, and (d) full intelligence quotient.

Hypothesis 1. There is no significant difference in the perceptual motor scores according to the locus of control orientation.

In using the Mann Whitney Correlation Coefficient to examine this hypothesis, it was found that there was no significant difference, as indicated by Table 4.

Table 4

Correlation Coefficient of the Vane Kindergarten  
Perceptual Motor Test Scores According to  
the Locus of Control Orientation

Locus of Control Orientation	Number	$\bar{X}$ Score	$r$	Level of Significance
Field-dependent (external control)	9	6.83	.224	NS
Field-independent (internal control)	6	9.75		NS

Hypothesis 2. There is no significant difference in the locus of control orientation and the vocabulary scores of the children.

In using the Mann Whitney Correlation Coefficient to examine this hypothesis, it was found that there was no significant difference, as indicated by Table 5.

Table 5  
Correlation Coefficient of the Vane Kindergarten  
Vocabulary Test Scores According to the  
Locus of Control Orientation

Locus of Control Orientation	Number	$\bar{X}$ Score	$r$	Level of Significance
Field-dependent (external control)	9	6.89	.272	NS
Field-independent (internal control)	6	9.67		NS

Hypothesis 3. There is no significant difference in the locus of control orientation and the draw-a-person scores of the children.

In using the Mann Whitney Correlation Coefficient to examine this hypothesis, it was found that there was no significant difference, as indicated by Table 6.

Table 6  
Correlation Coefficient of the Vane Kindergarten  
Draw-a-Person Test Scores According to  
the Locus of Control Orientation

Locus of Control Orientation	Number	$\bar{X}$ Score	$r$	Level of Significance
Field-dependent (external control)	9	6.33	.088	NS
Field-independent (internal control)	6	10.50		NS

Hypothesis 4. There is no significant difference . in the locus of control orientation and the intelligence quotient of the children.

In using the Mann Whitney Correlation Coefficient to examine this hypothesis, it was found that there was no significant difference, as indicated by Table 7.

Table 7  
Correlation Coefficient of the Vane Kindergarten  
Intelligence Quotient According to the  
Locus of Control Orientation

Locus of Control Orientation	Number	$\bar{X}$ Score	$r$	Level of Significance
Field-dependent (external control)	9	6.28	.066	NS
Field-independent (internal control)	6	10.58		NS

## CHAPTER V

### SUMMARY

#### Discussion

The purpose of this study was to measure the children's locus of control orientation and to determine if significant relationships existed between internal or external orientations and the academic achievements of young children. The children's academic achievements were measured according to the perceptual motor I. Q., vocabulary I. Q., draw-a-person I. Q., and full intelligence quotient.

The sample consisted of 15 kindergarten children enrolled in a private school. The subjects were 5 boys and 10 girls, ranging from 5 to 6 years of age.

Two valid instruments were utilized in the study. The Children's Embedded Figures Test was used to determine the children's locus of control orientation, and the Vane Kindergarten Test was used to assess certain levels of achievement (perceptual motor I. Q., vocabulary I. Q., draw-a-person I. Q., and full I. Q.).

The Mann Whitney U-Test was utilized to determine if the locus of control orientation was correlated with the four achievement variables. The level of significance chosen was .05.

The results of the study reveal that there is no significant relationship between the locus of control orientation and the academic achievement of young children.

Since the basic assumptions of the review of literature have indicated a parallel between a child's internal or external locus of control orientation to their levels of academic achievement, it is of interest that the children's academic achievement was not related to the locus of control orientation in this study. Perhaps this concept needs to be further examined to explain what this deviation from the review of literature could mean. Some possible reasons for this difference might be the number of children used in the study, geographical locations, or family environments. Some of the children in the study lived in an urban environment while others lived in a rural environment. Perhaps those children in the urban environment have had more culturally enriched experiences. Also, some of the children were from an orphanage, thus

were in a group care situation as opposed to the other children in the study who were from individual homes.

### Limitations and Recommendations

The present study was limited to 15 children in a private school in Oklahoma. Based upon the limitations and findings of this study, the following recommendations are made:

1. The Starkweather Social Conformity Test for Preschool Children should be administered to determine a child's tendency toward conforming or nonconforming behavior. This is a test that was developed specifically for preschool children to determine social conformity.

2. More research into the locus of control orientation should be conducted using larger sample sizes, as a small number of subjects could be a limiting factor in the outcome of the test.

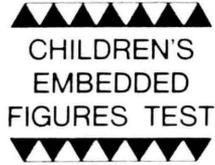
3. More research is needed in the area of family perceptions of internal and external control orientation, inasmuch as the influences of the family environment could effect a child's locus of control.

4. Further investigation might be considered in accordance with the child's motivation to achieve as

this might unfold insights on the concept of locus of control orientation.

APPENDIX

SCORE SHEET FOR



NAME \_\_\_\_\_  
 CLASS \_\_\_\_\_  
 BIRTH DATE \_\_\_\_\_ SEX: M \_\_\_ F \_\_\_  
 DATE \_\_\_\_\_ EXAMINER \_\_\_\_\_

TENT	DESCRIPTION	SCORE	HOUSE	DESCRIPTION	SCORE
P <sub>1</sub>			P <sub>3</sub>		
P <sub>2</sub>			H <sub>1</sub>		
T <sub>1</sub>			H <sub>2</sub>		
T <sub>2</sub>			H <sub>3</sub>		
T <sub>3</sub>			H <sub>4</sub>		
T <sub>4</sub>			H <sub>5</sub>		
T <sub>5</sub>			H <sub>6</sub>		
T <sub>6</sub>			H <sub>7</sub>		
T <sub>7</sub>			H <sub>8</sub>		
T <sub>8</sub>			H <sub>9</sub>		
T <sub>9</sub>			H <sub>10</sub>		
T <sub>10</sub>			H <sub>11</sub>		
T <sub>11</sub>			H <sub>12</sub>		
			H <sub>13</sub>		
			H <sub>14</sub>		
Total Score TENT			Total Score HOUSE		
					TOTAL TEST SCORE



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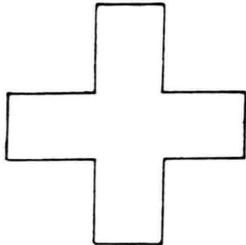
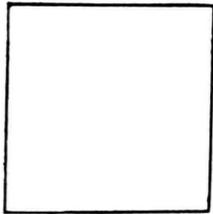
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**VANE KINDERGARTEN TEST**

© 1968, Julia R. Vane

Name _____	Fork _____	P-M IQ _____
Date _____	Wheel _____	Voc. IQ _____
B/d: _____	B/d _____	Man IQ _____
Age _____	Gift _____	Full IQ _____
School _____	Calendar _____	
	Alone _____	
	Short _____	
	Jolly _____	
	Silence _____	
	Wise _____	
RH _____ LH _____	Straight _____	Voc. Score _____

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October 19, 1981 .

Dear Principal:

I am working on a graduate degree in Child Development at the Texas Woman's University. I am beginning my thesis work. I would like to do my study at your school.

The title of my study is The Relationship Between Locus of Control Orientation and the Intellectual/Academic Potential of Young Children. I will be using two valid test instruments to obtain information for the study. The tests will determine the child's locus of control and academic potential. These tests' results will be beneficial to the teacher in that they will give her an overall view of each child's strengths and weaknesses in the particular areas tested.

In the Children's Embedded Figures Test, the child is to find a hidden (or embedded) picture of a house or a tent. There is only one house or one tent in each picture. The test consists of twenty pictures. The Vane Kindergarten Test involves having each child draw a man, three boxes, three crosses, and three hexagons. The child is then tested individually for vocabulary assessment. I will say a word to the child and the child is to respond by telling me what the word is or means.

Due to the nature of the study, it is best to work with children ranging in age from five to six years old. For this reason I have asked to work with the kindergarten group. There should be no risks involved as written consent will be obtained from the legal guardians of the child. Anonymity will be provided for each child.

A detailed description of the study I will be doing is in my thesis prospectus, which I have included with this letter. As part of the requirement for the Texas Woman's University, I will need your signature for permission to test the kindergarten children. Thank you very much for the time and help you have given me.

Sincerely,

Leslie Ann Brown

October 12, 1981

Dear Parents:

I am working on a graduate degree in Child Development at the Texas Woman's University. With your permission, I will be doing my research for my thesis at this institution.

I will be giving two tests on the mornings of October 19th and 20th (next Monday and Tuesday) to the kindergarten class. The tests to be given (Vane Kindergarten Test and Children's Embedded Figures Test) are both validated school tests. The tests will measure items dealing with the child's vocabulary level, attention span, and level of motivation. The results of these tests will benefit the teacher by giving her an overall view of each child's strengths and weaknesses in these areas.

As part of the requirement for the Texas Woman's University, I will need your signature for permission to test your child.

Thank you for your cooperation!

Sincerely,

Leslie Brown

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